SOIL SURVEY

Fayette County Alabama

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
ALABAMA DEPARTMENT OF AGRICULTURE AND INDUSTRIES
and
ALABAMA AGRICULTURAL EXPERIMENT STATION

Series 1962, No. 4

Issued November 1965

HOW TO USE THIS SOIL SURVEY REPORT

THIS SOIL SURVEY of Fayette County, Ala., will serve several groups of readers. It will help farmers in planning the kind of management that will protect their soils and provide good yields; assist engineers in selecting sites for roads, buildings, ponds, and other structures; aid managers of forests and woodland; add to soil scientists' knowledge of soils; and help bankers, prospective buyers, and others in appraising a farm or other tract.

Locating the Soils

At the back of this report is an index map and a soil map consisting of many sheets. On the index map are rectangles numbered to correspond to the sheets of the soil map, so that the sheet showing any area can be located easily. On each map sheet, the soil boundaries are outlined and there is a symbol for each kind of soil. All areas marked with the same symbol are the same kind of soil. The soil symbol is inside the area if there is enough room; otherwise, it is outside the area and a pointer shows where it belongs. For example, an area on the map has the symbol EdB. The legend for the set of maps shows that this symbol identifies Enders loam, 2 to 6 percent slopes. That soil and all others mapped in the county are described in the section "Descriptions of the Soils."

Finding Information

In the "Guide to Mapping Units, Capability Units, Woodland Suitability Groups, and Wildlife Groups" at the back of this report, each soil is listed in the alphabetic order of its map symbol. This guide gives the page where each soil is described, and the page of the capability unit, woodland suitability group, and wildlife group in which the soil has been placed. It also shows where to find the acreage of each soil, the yields that can be expected, and information about engineering uses of the soils.

Farmers and those who work with farmers can learn about the soils on a farm by reading the description of each soil and of its capability unit and other groupings. A convenient way of doing this is to turn to the soil map and list the soil symbols of a farm and then to use the "Guide to Mapping Units, Capability Units, Woodland Suitability Groups, and Wildlife Groups" in finding the pages where each soil and its groupings are described.

Foresters and others interested in woodland can refer to the section "Use of Soils for Woodland." In that section the soils in the county are placed in groups according to their suitability for trees, and the management of each group is discussed.

Game managers, sportsmen, and others concerned with wildlife will find information about the main kinds of wildlife and their food and cover in the section "Use of Soils for Wildlife."

Engineers and builders will find in the section "Engineering Properties of Soils" tables that (1) give engineering descriptions of the soils in the county; (2) name soil features that affect engineering practices and structures; and (3) rate the soils according to their suitability for several kinds of work.

Scientists and others who are interested can read about how the soils were formed and how they were classified in the section "Genesis, Morphology, and Classification of Soils."

Students, teachers, and other users will find information about soils and their management in various parts of the report, depending on their particular interest.

Newcomers in Fayette County will be especially interested in the section "General Soil Map," where broad patterns of soils are described. They may also be interested in the section "General Nature of the County," which gives additional information about the county.

* * * * *

Fieldwork for this survey was completed in 1962. Unless otherwise indicated, all statements in the report refer to conditions in the county at the time the survey was in progress. The soil survey of Fayette County was made as part of the technical assistance furnished by the Soil Conservation Service to the Fayette County Soil Conservation District, which was organized in July 1958. The Fayette County Soil Conservation District was formerly a part of the Tombigbee-Warrior Soil Conservation District, which was organized in August 1939.

Cover picture: Sign posted at an entrance to the Fayette County Soil Conservation District.

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SOIL SURVEY OF FAYETTE COUNTY, ALABAMA

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SOIL CONSERVATION SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, IN COOPERATION WITH THE ALABAMA DEPARTMENT OF AGRICULTURE AND INDUSTRIES AND THE ALABAMA AGRICULTURAL EXPERIMENT STATION

FAYETTE COUNTY is in the northwestern part of Alabama (fig. 1.) It covers a land area of 627 square miles, or 401,280 acres. In 1960 it had a population of 16,148. Fayette, the county seat and largest town, is in the western part of the county and is slightly south of the geographic center. The eastern third of the county lies on the Southern Appalachian Plateau, and the western two-thirds, on the Upper Coastal Plain.

The climate is temperate and humid, and rainfall is generally well distributed throughout the year. The summers are long and hot; the winters range from mild to cold, but are usually short.

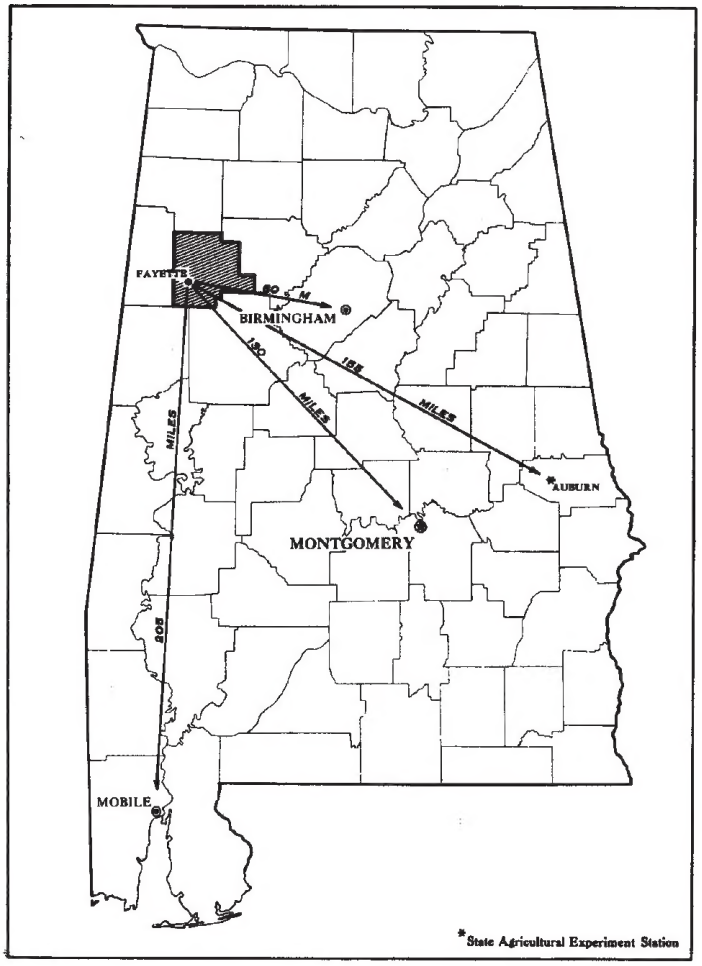

Figure 1.—**Location of Fayette County in Alabama.**

About 15 percent of the land is used for field crops or pasture. Corn and cotton are the principal crops; beef cattle, dairy cows, and hogs are the principal kinds of livestock. Poultry is raised on most farms only for home use, but many eggs and broilers are produced on a few farms. In recent years the number of farms has steadily decreased, the size of individual farms has increased, and the acreage in cropland has decreased.

Many of the soils are so steep and so susceptible to erosion that they are not well suited to crops and pasture. They are, however, well suited to trees. Most of the soils are acid, low to moderate in fertility, and low in content of organic matter. As a rule, field crops and pasture grown on these soils respond well to applications of lime and fertilizer.

How This Soil Survey Was Made

Soil scientists made this survey to learn what kinds of soils are in Fayette County, where they are located, and how they can be used.

They went into the county knowing they likely would find many soils they had already seen, and perhaps some they had not. As they traveled over the county, they observed steepness, length, and shape of slopes; size and speed of streams; kinds of native plants or crops; kinds of rock; and many facts about the soils. They dug or bored many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down into the rock material that has not been changed much by leaching or by roots of plants.

The soil scientists made comparisons among the profiles they studied, and they compared these profiles with those in counties nearby and in places more distant. They classified and named the soils according to nationwide, uniform procedures (*9*).[1] To use this report efficiently, it is necessary to know the kinds of groupings most used in a local soil classification.

Soils that have profiles almost alike make up a soil series. Except for different texture in the surface layer, all the soils of one series have major horizons that are similar

[1] Italicized numbers in parentheses refer to Literature Cited, page 113.

in thickness, arrangement, and other important characteristics. Each soil series is named for a town or other geographic feature near the place where a soil of that series was first observed and mapped. The Townley series, for example, is named for a community in Walker County. All the soils in the United States having the same series name are essentially alike in natural characteristics.

Many soil series contain soils that are alike, except for the texture of their surface layer. According to this difference in texture, separations called soil types are made. Within a series, all the soils having a surface layer of the same texture belong to one soil type. Ruston fine sandy loam and Ruston sandy clay loam are two soil types in the Ruston series. The difference in the texture of their surface layers is apparent from their names.

Some soil types vary so much in slope, degree of erosion, number and size of stones, or some other feature affecting their use that practical suggestions about their management could not be made if they were shown on the soil map as one unit. Such soil types are divided into phases. The name of a soil phase indicates a feature that affects management. For example, Ruston fine sandy loam, 2 to 6 percent slopes, is one of several phases of Ruston fine sandy loam, a soil type that ranges from nearly level to steep.

After a fairly detailed guide for classifying and naming the soils had been worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodland, buildings, field borders, trees, and other details that greatly help in drawing boundaries accurately. The soil map in the back of this report was prepared from aerial photographs.

The areas shown on a soil map are called mapping units. Five kinds of mapping unit are used in this survey. The most numerous kind is nearly equivalent to a soil type or a phase of a soil type. It is not exactly equivalent, because it is not practical to show on such a map all the small, scattered bits of soil of some other kind that have been seen within an area that is dominantly of a recognized soil type or soil phase.

Another kind of mapping unit is a group of soils that forms a pattern so intricately mixed and so small in size that it is not practical to show the soils separately on the map. This is called a soil complex. The component soils in a given complex are in all or nearly all of the delineations so identified. Ordinarily, a soil complex is named for the major series in it, for example, Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes.

A similar kind of mapping unit, though less detailed than the soil complex, is the soil association. The component soils in a soil association are in areas large enough that each could be delineated in a detailed survey if it seemed worthwhile to take the time and make the effort required. Like the areas in the complex, the areas of this mapping unit have a considerable degree of uniformity in pattern and proportion of component soils. The soil association is named for the major soils in it, for example, Ruston-Cuthbert association, 15 to 50 percent slopes.

Yet another kind of mapping unit is an undifferentiated group of soils. No uniformity in pattern or proportion of component soils exists from one delineation to the next. The word "and" is used instead of the hyphen in the series names of an undifferentiated group of soils. For example, Mantachie, Leaf, and Iuka soils.

Also, areas are shown on the soil map that are so rocky, so shallow, or so frequently worked by wind and water that they cannot be called soils. These areas are shown on a soil map like other mapping units, but they are given descriptive names, such a Gullied land or Rock land, and are called land types rather than soils.

But only part of a soil survey is done when the soils have been named, described, and delineated on the map, and the laboratory data and yield data have been assembled. The mass of detailed information then needs to be organized in a way that it is readily useful to different groups of readers, among them farmers, managers of woodland, engineers, and homeowners. Grouping soils that are similar in suitability for each specified use is the method of organization commonly used in the soil survey reports. Based on the yield and practice tables and other data, the soil scientists set up trial groups, and test them by further study and by consultation with farmers, agronomists, engineers, and others. Then, the scientists adjust the groups according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under present methods of use and management.

General Soil Map

After study of the soils in a locality and the way they are arranged, it is possible to make a general map that shows several main patterns of soils, called soil associations. Such a map is the colored soil map in the back of this report. Each association, as a rule, contains a few major soils and several minor soils, in a pattern that is characteristic although not strictly uniform.

The soils within any one association are likely to differ among themselves in some or in many properties; for example, slope, depth, or natural drainage. Thus, the general soil map shows, not the kind of soil at any particular place, but several distinct patterns of soils.

Each soil association is named for the major soil series in it, but, as already noted, soils of other series may also be present. The major soils of one soil association may also be present in other associations, but in a different pattern.

The general map is useful to people who want a general idea of the soils, who want to compare different parts of a county, or who want to know the possible location of good-sized areas suitable for a certain kind of farming or other land use. The map is not detailed enough to be used for planning specific practices for a single farm.

In Fayette County one of the soil associations is on a mountainous plateau, one is on a broad, nearly level Coastal Plain upland, three are on hilly uplands of the Coastal Plain, and one is on flood plains and stream terraces. The mountainous and hilly areas are largely in woods, but a substantial acreage of the flood plains, stream terraces, and broad, nearly level uplands is used for field crops and pasture.

1. Montevallo-Enders-Townley Association

Shallow to moderately deep soils over shale and sandstone

This association (fig. 2) is a plateau that is dissected by many intermittent streams and a few permanent streams. Within the areas are narrow, winding ridgetops and valleys. The side slopes range from 15 to 50 percent. Shale and sandstone bedrock are at a depth of 6 to 25 inches on the side slopes and at a depth of 18 to 60 inches on the ridgetops. This association is in the eastern one-third of the county and occupies about 33 percent of the county. Most of the acreage is forested with hardwoods or Virginia pine.

Montevallo soils, on the side slopes and some of the ridgetops, make up about 60 percent of the association. The surface layer of these soils is dark grayish-brown shaly silt loam. This layer is underlain by thin, yellowish-brown shaly silty clay loam that grades to shale at a depth of 6 to 24 inches. Sandstone boulders are common on some of the steep side slopes.

The Enders and Townley soils are on narrow, winding ridgetops. Enders soils make up 10 percent of the association. Their surface layer is loam, and their subsoil is red silty clay loam. The Enders soils are underlain by shale at a depth of 30 to 60 inches.

Townley soils make up 8 percent of the association. Their surface layer is loam, and their subsoil is red silty clay. The Townley soils are underlain by shale at a depth of 18 to 36 inches. Hanceville, Leadvale, Sequatchie, Stendal, and Atkins soils occupy a minor part of this association.

About 90 percent of this association is wooded; only a small acreage is cultivated. The cultivated fields are on small, nearly level ridgetops and in narrow strips along permanent streams. The soils are well suited to trees, but except for the small areas that are now cultivated, they are not suited to cultivated crops. The soils on the hillsides are low in fertility. They are shallow over bedrock and erode easily if they are cleared and cultivated.

Pulp and paper companies own large tracts of land in this association, and large tracts are owned by individuals. The large tracts are used mainly for the production of pulpwood. Most of the farmers grow cotton and corn and raise a few head of livestock for home use. Farming,

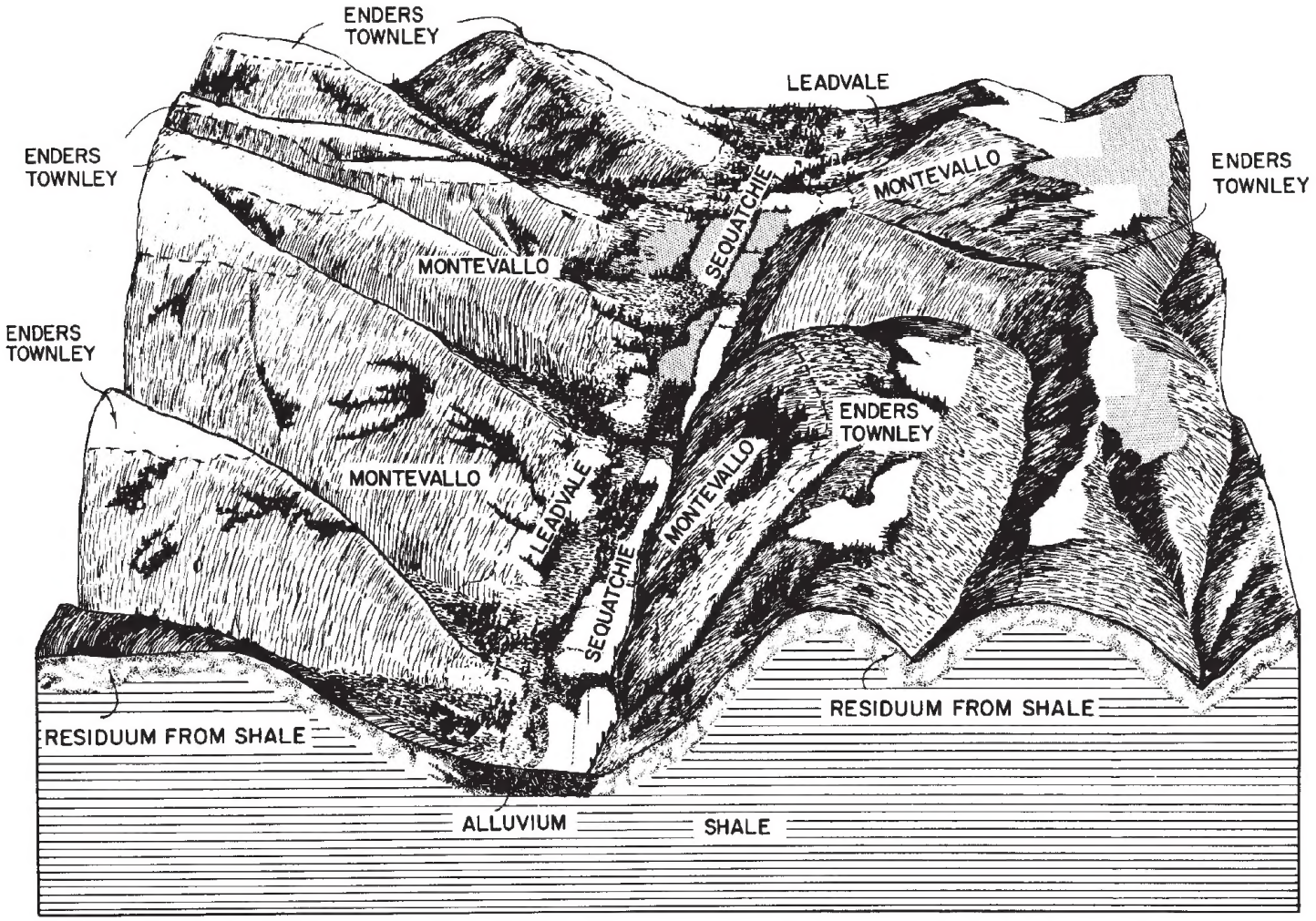

Figure 2.—Block diagram showing typical topography and the major soils in the Montevallo-Enders-Townley association.

however, is primarily a part-time enterprise in this association. Many farmers harvest timber in their spare time.

2. Ruston-Cuthbert-Shubuta Association

Moderately deep and deep soils over thick beds of sandy or clayey marine sediments

This association is a hilly upland of the Coastal Plain. It is highly dissected by many intermittent streams and a few permanent streams. Within the areas are narrow, winding ridgetops and narrow valleys. The side slopes of the ridges and valleys range from 15 to 50 percent. The floors of the valleys are nearly level and are about 250 feet wide. This association covers much of the western two-thirds of the county. It is the largest of the associations and occupies about 50 percent of the county.

Ruston soils, on many of the ridgetops and steep side slopes, make up about 55 percent of the association. The surface layer of these soils is brown fine sandy loam, and their subsoil is yellowish-red sandy clay loam. The sandy material is 3 to 6 feet or more thick. In most places the Ruston soils on steep side slopes are coarser textured than the Ruston soils on ridgetops.

The Cuthbert and Shubuta soils, also on ridgetops and steep side slopes, make up about 30 percent of the association. The surface layer of the Cuthbert soils is brown fine sandy loam, and their subsoil is red, firm silty clay. Sticky clay is at a depth of 18 to 60 inches. In some areas fragments of iron-crust rock that are 1 to 10 inches long and ½ to 1½ inches thick are common on the surface. In many places a discontinuous layer of iron-crust rock underlies the subsoil. The Shubuta soils are similar to the Cuthbert soils, but they have a thicker subsoil.

Nearly level Mantachie and Iuka soils occupy a smaller part of the association. Also, Guin, Ora, Savannah, and Ochlockonee soils occupy a minor acreage. The Mantachie and Iuka soils are farmed more intensively than the other soils, but they are waterlogged in wet seasons because of seepage and the high water table.

About 85 percent of this association is wooded; only a small acreage is cultivated. The cultivated fields are on the broader ridgetops or on the nearly level floors of valleys. The soils are well suited to trees, range plants, and plants that provide food and cover for wildlife. Except for the small areas on the broader ridgetops and on the floors of the valleys, however, they are not suited to cultivated crops. The soils on the hillsides are droughty, low in fertility, and difficult to work. They erode easily if they are cleared and cultivated. About one-third of the association has been cultivated. The areas were abandoned, however, because of the hazard of erosion, the low fertility of the soils, the difficulty of working with farm tractors, and the small size and isolation of the fields.

Pulp and paper companies own large tracts of land in this association, and large tracts are owned by individuals. The large tracts are used mainly for the production of timber. Most farms are about 150 acres in size and are operated by the owner. A few dairy farms and a few farms where the raising of beef cattle is the main enterprise are in this association. Cotton and corn are grown by most farmers. Farming, however, is primarily a part-time enterprise. Most of the farmers work away from the farm in their spare time.

3. Myatt-Stough-Mantachie Association

Deep, imperfectly drained and poorly drained soils on flood plains and low stream terraces

This association consists of broad, nearly level flood plains that adjoin nearly level and gently sloping low stream terraces. Generally, the breaks between the terraces and the flood plains consist of short, steep steps that are like escarpments, but in places the breaks have gradual slopes. The flood plain of the Sipsey River is about 1½ miles wide, and the flood plain of Luxapallila Creek is about 1¼ miles wide. The stream terraces occupy narrow, nearly level and gently sloping strips between the flood plains and the uplands. This association makes up about 8 percent of the county.

Myatt soils make up about 20 percent of the association. Their surface layer is dark-gray silt loam, and their subsoil is mottled gray and brown sandy clay loam. The Myatt soils are flooded occasionally, mainly in winter and early in spring.

Stough soils make up about 20 percent of the association. Their surface layer is grayish-brown loam, and their subsoil is pale-brown silt loam that is faintly to distinctly mottled. In some areas these soils have a weak fragipan. The Stough soils are flooded occasionally, mainly late in winter and early in spring.

Mantachie soils make up about 20 percent of the association. Their surface layer is dark grayish-brown fine sandy loam, and it is underlain by mottled gray and brown loam or silt loam. Lenses of sand occur throughout the profile. The Mantachie soils are flooded frequently.

Prentiss soils occupy a smaller part of the association, and Iuka, Ochlockonee, Leaf, and Bibb soils occupy a minor acreage. The Prentiss soils are on stream terraces. Their surface layer is brown fine sandy loam, and their subsoil is yellowish-brown sandy clay loam. They have a weak fragipan at a depth of 20 to 30 inches.

About 45 percent of the association is wooded, 20 percent is pastured, and 35 percent is cultivated. The fields that are cultivated are mostly on the highest part of the flood plains or on the stream terraces. The average farm is about 100 acres in size and is operated by the owner. Corn and pasture are the chief crops grown on the flood plains, and cotton is the chief crop grown on the terraces. A large part of the corn crop produced is sold. Most of the dairy farms in the county are in this association.

The soils of the flood plains are among the most fertile of the soils in the county, but they are not well suited to cultivated crops, because they are low, wet, and subject to flooding. Except for the wettest areas, the soils of the flood plains are well suited to pasture (fig. 3). The wet areas could be reclaimed for pasture by installing artificial drainage.

The soils of the stream terraces are farmed intensively. They are well suited to cultivated crops because their slopes are favorable, and response to management is good. Trees grow well on the flood plains.

4. Savannah-Ora Association

Deep, moderately well drained soils that have a fragipan

This association is a broad, nearly level upland that is dissected by a few intermittent streams. Within the areas

Figure 3.—Pasture of fescue and white clover in a typical area of the Myatt-Stough-Mantachie association.

are nearly level and gently sloping fields dissected by a few intermittent drainageways, upland flats, and slight depressions. This association makes up about 4 percent of the county. It is in the vicinity of Fayette, Lawrence Mill, Whites Chapel, and Newtonville.

Savannah soils make up about 40 percent of the association. Their surface layer is loam, and their subsoil is a yellowish-brown clay loam. A compact, brittle fragipan is at a depth of 20 to 30 inches.

Ora soils make up about 20 percent of the association. They have a surface layer of brown fine sandy loam and a subsoil of red loam or clay loam. A compact, brittle fragipan is at a depth of 24 to 36 inches. Minor soils of the association are the Ruston, Greenville, Pheba, Mashulaville, and Shubuta.

This association is farmed more intensively than the other associations in the county. Most of the acreage is cultivated. The soils are among the most productive of the soils in the county, and they make good response to fertilizer and lime. The farms are mainly about 70 acres in size. A few farmers, however, rent or lease the land that has been cleared, and they operate larger farms. Farming on these larger farms is mechanized, and operations are on a large scale. Cotton and corn are about the only crops grown (fig. 4) and most of the corn is sold. On a few farms the raising of beef cattle or hogs is the main enterprise.

5. Ora-Ruston-Greenville Association

Moderately deep and deep soils over sandy loam or sandy clay loam marine sediments

This association is a hilly upland where the Coastal Plain is dissected by many intermittent streams. Within the areas are fairly wide ridgetops, short, moderately steep side slopes, and fairly wide valleys. The nearly level valley floors are 300 to 400 feet wide. This association occupies only about 2 percent of the county and is the smallest of the associations. It is in the northern part of the county, south and southwest of the town of Winfield in Marion County.

Ora soils, on ridgetops, make up about 30 percent of the association. The surface layer of these soils is brown fine sandy loam, and their subsoil is yellowish-red or red sandy clay loam. A compact and brittle fragipan is at a depth of 20 to 30 inches.

Ruston soils are on some of the ridgetops and on the moderately steep side slopes. They make up about 25 percent of the association. Their surface layer is grayish-brown or brown fine sandy loam, and their subsoil is yellowish-red sandy clay loam. In most places the sandy material is 3 to 6 feet or more thick.

Greenville soils, on some of the ridgetops, make up about 10 percent of the association. Their surface layer is dark reddish-brown loam, and their subsoil is dark-red,

Figure 4.—**Cotton growing on a broad, nearly level upland flat in the Savannah-Ora association.**

friable clay loam or clay. These soils are several feet thick in most places. Nearly level Mantachie and Iuka soils occupy a small acreage on the floors of the valleys. They formed in recent sediments washed down from the nearby slopes, and they have a seasonally high water table. Other minor soils of the association are the Savannah, Shubuta, and Guin.

About 70 percent of the association is wooded. Most of the acreage that has been cleared is on the broader ridgetops or on the floors of the valleys. Most farms are about 140 acres in size, and a large part of each farm is wooded. The farms are generally operated by the owner, but farming is mainly a part-time enterprise. Cotton and corn are the major crops. The raising of beef cattle is the main enterprise, however, on a few farms.

The soils on the broader ridgetops and on the narrow valley floors are well suited to cultivated crops. If the soils on the ridgetops are cultivated, they must be terraced and farmed on the contour to protect them from erosion. These are among the most productive soils of uplands in this county. Crops grown on them make good response to fertilizer and lime. The moderately steep soils on the hillsides are poorly suited to cultivation because the hazard of erosion is severe if they are cleared and cultivated. Also, farm machinery is difficult to use on the hillsides. Trees and other plants that provide food and cover for wildlife are well suited to these soils. The Upper Coastal Plain Experiment Station is in this association.

6. Shubuta-Ora Association

Moderately deep and deep, moderately well drained to well drained soils over sandy clay loam or clay marine sediments

This association is a hilly upland in areas of the Coastal Plain that are highly dissected by many intermittent streams and a few permanent streams. Within the association are narrow, winding ridgetops, short, moderately steep side slopes, and narrow, crooked valleys or hollows. These soils occupy a strip 2 to 3 miles wide that begins about 2 miles north of Bluff and extends southward for

about 9 miles. The association occupies about 3 percent of the county.

Shubuta soils make up about 35 percent of the association. They are on many of the narrow ridgetops and moderately steep hillsides. The surface layer of these soils is brown fine sandy loam, and their subsoil is red, firm silty clay or clay. Sticky clay is 2½ to 5 feet or more beneath the surface. In places many iron-crust rocks are on the surface. These rocks are 1 to 10 inches long and ½ to 1½ inches thick. A discontinuous layer of iron-crust rock underlies the subsoil throughout most of the association.

Ora soils, on many of the narrow ridgetops, make up about 20 percent of the association. Their surface layer is brown fine sandy loam, and their subsoil is yellowish-red to red sandy clay loam. They have a compact, brittle fragipan 20 to 30 inches beneath the surface. Minor soils of the association are the Ruston, Cuthbert, Boswell, and Mantachie.

About 70 percent of the association is wooded, 15 percent is pastured, 10 percent is cultivated, and the rest is idle. A large part of the association has been cultivated. Most of the cultivated areas have been abandoned, however, because of the severe hazard of erosion, the small size and isolation of the fields, and the difficulty of working with farm tractors. The acreage that is now cultivated consists mainly of nearly level strips in the narrow valleys and on a few of the broader ridgetops.

Most farms in this association are about 160 acres in size, and a large part of each farm is wooded. The farms are generally operated by the owner, but farming is primarily a part-time enterprise. Cotton is the main cash crop. A few dairy farms and a few farms where the raising of beef cattle is the main enterprise are in this association.

Except for small areas on the broader ridgetops and nearly level strips on the floors of the narrow valleys, the soils of this association are not suited to row crops. A large part of the association is fairly well suited to pasture (fig. 5). The soils on the hillsides are shallow over firm silty clay or clay. They are low in fertility and erode readily if they are cleared and cultivated. However, trees and other plants that provide food and cover for wildlife grow well in this association.

Figure 5.—**Well-managed pasture of bahiagrass and ball clover in the Shubuta-Ora association. The pond provides water for livestock.**

Descriptions of the Soils

This section contains detailed information about the soils in the county. It describes the individual soils, or mapping units; that is, the areas on the detailed soil map that are bounded by lines and are identified by a symbol. For more general information about the soils, the reader can refer to the section "General Soil Map" in which the broad patterns of soils are described. The approximate acreage and proportionate extent of each soil mapped in the county are given in table 1. Their location is shown on the soil map at the back of the report.

In the descriptions that follow, each soil series is first described, and then the soils in the series. The series description mentions briefly features that apply to all the soils in that particular series. Some of the features described are the position of the soils on the landscape, differences among the soils of the series, and the present use. Also, for each series, a profile considered representative for all the soils in the series is described. Unless otherwise indicated, the colors shown are those of a moist soil. Where the thickness of a horizon is described, the figures given are approximate. A more detailed profile that is representative for each series is given in the section "Genesis, Morphology, and Classification of Soils."

Some of the terms used to describe the soils are defined in the section "How This Soil Survey Was Made." Others are defined in the Glossary. All of the soils mapped in the county are listed in the "Guide to Mapping Units, Capability Units, Woodland Suitability Groups, and Wildlife Groups" in the back of the report, along with their map symbol and the management groupings to which they belong.

Atkins Series

Soils of the Atkins series are deep, poorly drained, nearly level, and silty. They are at the heads of and along small drainageways on the Southern Appalachian Plateau. The following describes a representative profile:

0 to 8 inches, grayish-brown silt loam; few gray mottles.
8 to 20 inches, gray silt loam; brown mottles.
20 to 30 inches +, mottled gray and brown silty clay.

The texture of the surface layer ranges from fine sandy loam to silty clay loam. Below the surface layer, the texture ranges from loam to silty clay, and the color is gray or mottled gray and brown.

These soils are strongly acid. The content of organic matter is low, and the natural fertility is moderate. Crops grown on these soils make fairly good response to lime and fertilizer. Water enters these soils at a moderate to slow rate and moves slowly through the profile. The root zone is shallow because the soils have a seasonally high water table. Normally, the soils are not flooded, though water stands on the surface for long periods during wet seasons. The available moisture capacity is high.

756-320—65— —2

TABLE 1.—*Approximate acreage and proportionate extent of the soils*

Soil	Acres	Percent
Atkins soils, local alluvium	437	0.1
Bibb soils	7,942	2.0
Bibb soils, local alluvium	3,530	.9
Enders loam, 2 to 6 percent slopes	516	.1
Enders loam, 2 to 6 percent slopes, eroded	4,237	1.1
Enders loam, 6 to 10 percent slopes	2,528	.7
Enders loam, 6 to 10 percent slopes, eroded	5,138	1.3
Enders loam, 10 to 15 percent slopes	348	.1
Enders loam, 10 to 15 percent slopes, eroded	471	.1
Enders clay loam, 2 to 6 percent slopes, severely eroded	349	.1
Enders clay loam, 6 to 10 percent slopes, severely eroded	1,258	.3
Enders clay loam, 10 to 15 percent slopes, severely eroded	349	.1
Greenville loam, 0 to 2 percent slopes	100	(1)
Greenville loam, 2 to 6 percent slopes, eroded	698	.2
Greenville loam, 6 to 10 percent slopes, eroded	316	.1
Greenville clay loam, 2 to 10 percent slopes, severely eroded	150	(1)
Guin gravelly sandy loam, 6 to 15 percent slopes	725	.2
Gullied land	70	(1)
Hanceville loam, 2 to 6 percent slopes, eroded	455	.1
Iuka silt loam	2,686	.7
Iuka-Ochlockonee complex, local alluvium	1,795	.4
Leadvale loam, 2 to 6 percent slopes	1,623	.4
Magnolia fine sandy loam, 2 to 10 percent slopes, eroded	395	.1
Mantachie fine sandy loam	8,670	2.2
Mantachie soils, local alluvium	13,606	3.4
Mantachie, Leaf, and Iuka soils	7,780	1.9
Mashulaville loam	455	.1
Montevallo shaly silt loam, 6 to 10 percent slopes	1,028	.3
Montevallo shaly silt loam, 6 to 10 percent slopes, severely eroded	1,141	.3
Montevallo shaly silt loam, 10 to 15 percent slopes	1,734	.4
Montevallo shaly silt loam, 10 to 15 percent slopes, severely eroded	1,305	.3
Montevallo shaly silt loam, 15 to 50 percent slopes	70,300	17.6
Montevallo shaly silt loam, 15 to 50 percent slopes, severely eroded	1,250	.3
Myatt silt loam	10,129	2.5
Ochlockonee loam	3,037	.8
Ochlockonee sandy loam	297	.1
Ora fine sandy loam, 2 to 6 percent slopes, eroded	4,952	1.2
Ora fine sandy loam, 6 to 10 percent slopes	392	.1
Ora fine sandy loam, 6 to 10 percent slopes, eroded	7,107	1.8
Ora fine sandy loam, 10 to 15 percent slopes, eroded	279	.1
Ora sandy clay loam, 6 to 10 percent slopes, severely eroded	625	.2
Pheba loam	534	.1
Philo soils, local alluvium	681	.2
Prentiss fine sandy loam, 0 to 2 percent slopes	2,159	.5
Prentiss fine sandy loam, 2 to 6 percent slopes, eroded	1,164	.3
Rock land	223	.1
Ruston fine sandy loam, 0 to 2 percent slopes	410	.1
Ruston fine sandy loam, 2 to 6 percent slopes	345	.1
Ruston fine sandy loam, 2 to 6 percent slopes, eroded	3,113	0.8
Ruston fine sandy loam, 6 to 10 percent slopes	3,191	.8
Ruston fine sandy loam, 6 to 10 percent slopes, eroded	21,173	5.3
Ruston fine sandy loam, 10 to 15 percent slopes	1,593	.4
Ruston fine sandy loam, 10 to 15 percent slopes, eroded	8,814	2.2
Ruston fine sandy loam, 15 to 25 percent slopes	877	.2
Ruston sandy clay loam, 6 to 10 percent slopes, severely eroded	1,247	.3
Ruston sandy clay loam, 10 to 15 percent slopes, severely eroded	3,746	.9
Ruston-Cuthbert association, 15 to 50 percent slopes	96,760	24.2
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes	1,697	.4
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes, eroded	5,873	1.5
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes	5,609	1.4
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes, eroded	18,937	4.7
Sandy alluvial land	97	(1)
Savannah loam, 0 to 2 percent slopes	1,552	.4
Savannah loam, 2 to 6 percent slopes	338	.1
Savannah loam, 2 to 6 percent slopes, eroded	4,526	1.1
Savannah loam, 6 to 10 percent slopes, eroded	977	.2
Sequatchie loam	1,186	.3
Shubuta fine sandy loam, 2 to 6 percent slopes, eroded	546	.1
Shubuta fine sandy loam, 6 to 10 percent slopes	965	.2
Shubuta fine sandy loam, 6 to 10 percent slopes, eroded	5,976	1.5
Shubuta fine sandy loam, 10 to 15 percent slopes	807	.2
Shubuta fine sandy loam, 10 to 15 percent slopes, eroded	1,767	.4
Shubuta-Boswell complex, 6 to 10 percent slopes, eroded	2,130	.5
Shubuta-Boswell complex, 10 to 15 percent slopes, eroded	2,861	.7
Shubuta-Boswell complex, 15 to 50 percent slopes	5,591	1.4
Stendal soils, local alluvium	2,945	.7
Stough loam, 0 to 2 percent slopes	9,167	2.3
Terrace escarpments	180	(1)
Townley loam, 2 to 6 percent slopes, eroded	1,340	.3
Townley loam, 6 to 10 percent slopes	359	.1
Townley loam, 6 to 10 percent slopes, eroded	4,757	1.2
Townley loam, 10 to 15 percent slopes, eroded	1,605	.4
Townley silty clay loam, 2 to 6 percent slopes, severely eroded	133	(1)
Townley silty clay loam, 6 to 10 percent slopes, severely eroded	1,398	.3
Townley silty clay loam, 10 to 15 percent slopes, severely eroded	501	.1
Tyler loam	969	.2
Water mines and pits, and miscellaneous		.1
Total	401,280	100.0

[1] Less than 0.05 percent.

These soils are widely distributed throughout the eastern one-third of the county, but their total acreage is small. Most areas are wooded; the dominant trees are gum, maple, ironwood, and swamp hardwoods. The open areas are used mainly for pasture. These soils are not suited to cultivated crops, because of their poor drainage and the excess water.

Atkins soils, local alluvium (At).—These are the only Atkins soils in the county; they are mapped together as a single unit. Their surface layer is grayish brown mottled with gray. It is 8 inches thick and is underlain by 12 inches of gray silt loam that is mottled with brown. Below is mottled gray and brown silty clay. The texture of the surface layer ranges from fine sandy loam to silty clay loam. In some areas few to many fragments of shale and sandstone are on the surface. Mapped with these soils are small areas of Stendal soils.

These Atkins soils are strongly acid. The content of organic matter is low, and fertility is moderate. Surface runoff is slow or very slow, and water stands on the surface for long periods during wet seasons. Infiltration is moderate to slow, and permeability is slow. The available moisture capacity is high.

These soils are fairly easy to work, but they can be tilled only within a narrow range of moisture content. The range of suitability for crops is narrow because of the poor drainage and high water table. Artificially drained areas of these soils are suited to cultivated crops. Erosion is not a hazard. (Capability unit IIIw–11; woodland suitability group 7; wildlife group 7)

Bibb Series

In the Bibb series are soils that are deep, poorly drained, and nearly level. These soils formed in alluvium. They are on flood plains and at the heads of small drainageways or in depressions in the uplands. The following describes a representative profile:

0 to 8 inches, grayish-brown, friable silt loam mottled with brown.
8 to 25 inches, gray, friable silt loam mottled with brown.
25 to 40 inches +, mottled gray, brown, and red, friable fine sandy loam.

The color of the surface layer ranges from grayish brown to very dark brown or mottled gray and brown. Below the surface layer, the texture ranges from sandy loam to silt loam, and the color is gray or mottled gray, brown, or red. Lenses of sand are in the profile.

These soils are strongly acid to very strongly acid. The content of organic matter is low, and fertility is moderate. Water enters these soils at a moderate to slow rate and moves slowly through the profile. The soils are subject to flooding or ponding, and water stands on the surface for long periods during wet seasons. The available moisture capacity is high.

These soils are widely distributed throughout the county, but their total acreage is fairly small. Nearly all of the acreage is wooded. The dominant trees are gum, maple, bay, alder, swamp oak, and hickory. The cleared areas are used primarily for pasture. These soils are not suited to row crops, because of the poor drainage, high water table, and the long periods when water stands on the surface.

Bibb soils (Bb).—The soils in this unit generally have a surface layer of grayish-brown silt loam mottled with brown and gray. The surface layer is 8 inches thick and is underlain by 18 inches of gray silt loam that is mottled with brown. Below the silt loam is mottled gray, brown, and red fine sandy loam. The texture of the surface layer ranges from fine sandy loam to silt loam. In places a few fragments of chert and a few quartz pebbles are on the surface and in the profile.

These soils are strongly acid to very strongly acid. The content of organic matter is low, and fertility is moderate. Surface runoff is slow or very slow. Infiltration and permeability are slow to moderate. The available moisture capacity is high.

These soils will clod if tilled when wet or extremely dry, but they are fairly easy to work when they contain the proper amount of moisture. They are poorly suited to cultivated crops because of their poor drainage, the high water table, the long periods when water stands on the surface, and their susceptibility to flooding. These soils are suited to pasture, such as fescue and white clover, and they are suited to trees. Erosion is a hazard only in areas where floods cause scouring. (Capability unit IVw–11; woodland suitability group 2; wildlife group 7)

Bibb soils, local alluvium (Bc).—In most places these soils have a surface layer of gray loam that is mottled with brown. The surface layer is 6 inches thick. It is underlain by 24 inches of gray fine sandy loam that is mottled with yellowish brown. Below the fine sandy loam is mottled gray and yellowish-brown sandy clay loam. The texture of the surface layer ranges from sandy loam to silt loam. Below the surface layer, the texture ranges from sandy loam to loam. In places a few fragments of chert and a few quartz pebbles are on the surface and in the profile. Mapped with these soils are small areas of Iuka and Mantachie soils.

These Bibb soils are very strongly acid. Their content of organic matter is low, and fertility is moderate. Surface runoff is slow or very slow. Infiltration and permeability are slow to moderate. The available moisture capacity is high.

Normally, these soils are not covered by floodwaters, but they are poorly suited to cultivated crops because of their poor drainage, the high water table, and the long periods when water stands on the surface. The soils will clod readily if they are tilled when too wet or when extremely dry, but they are fairly easy to work when they contain the proper amount of moisture. The soils are better suited to forest or pasture than to field crops. Erosion is not a hazard. (Capability unit IIIw–11; woodland suitability group 2; wildlife group 7)

Boswell Series

The soils of the Boswell series are deep and moderately well drained. They are in small spots, narrow strips, or irregularly shaped patches on uplands of the Coastal Plain. These soils formed in thick beds of acid, fine-textured marine sediments.

The surface layer is brown to dark grayish-brown fine sandy loam. It is about 5 inches thick and overlies about 10 inches of red clay that is sticky and plastic. Below is dense, plastic clay mottled with red and gray.

In this county the Boswell soils are mapped only in a complex with the Shubuta soils. They are finer textured and more plastic, however, than the Shubuta soils.

Cuthbert Series

In the Cuthbert series are shallow to moderately deep, moderately well drained soils that are gently sloping to steep. The soils are on uplands of the Coastal Plain. They formed in beds of marine clays, silty clays, and sandy clays that are highly stratified with lenses of sandy material.

The surface layer of these soils is dark grayish-brown fine sandy loam that is 5 to 10 inches thick. It overlies 10 inches of yellowish-red clay or silty clay. The clay or silty clay is underlain by silty clay that is gray or mottled with gray, strong brown, or red.

Water enters these soils readily. It moves at a moderate to slow rate through the profile.

In this county the Cuthbert soils are mapped only in association with the Ruston soils, or in a complex with the Ruston and Shubuta soils. Their subsoil is thinner and finer textured than that of the Ruston soils. It is thinner than that of the Shubuta soils, and the lower part is less red.

Enders Series

Soils of the Enders series are moderately deep and deep, well drained, and gently sloping to moderately steep. They formed in material weathered from interbedded shale and sandstone. These soils are on ridgetops on the Southern Appalachian Plateau and are also on some of the side slopes. The following describes a representative profile:

0 to 5 inches, brown, very friable loam.
5 to 40 inches, red, firm silty clay; has some yellowish-brown mottles in lower part; blocky structure.
40 to 52 inches, mottled red and brown, firm silty clay.
52 inches +, level-bedded shale.

The color of the subsoil ranges from yellowish red to dark red. The texture of the subsoil ranges from silty clay loam to clay.

These soils are very strongly acid. Their content of organic matter and their natural fertility are low. Crops grown on these soils make good response to lime and fertilizer. Water enters the soils readily and moves through the profile at a moderate to slow rate. The available moisture capacity is moderate to low. The root zone is moderately deep.

These soils are widely distributed throughout the eastern one-third of the county, and their total acreage is fairly large. Formerly, a large part of the acreage was cultivated. Now, only about one-third is cultivated, and the rest is in forests of loblolly pine or Virginia pine. These soils are well suited to all the locally grown crops. If cultivated crops are grown, however, erosion is a hazard.

Enders loam, 2 to 6 percent slopes (EdB).—This soil has a surface layer of dark grayish-brown loam. The surface layer, if the soil has not been plowed, is 2 inches thick and is underlain by 8 inches of yellowish-brown, very friable loam. The subsoil is red, firm silty clay that is 25 inches thick. It has some yellowish-brown variegation in the lower part. The subsoil is underlain by variegated red and brownish-yellow, firm silty clay. Bedrock of shale and sandstone is at a depth of about 42 inches. Mapped with this soil are small areas of Townley and Montevallo soils.

This Enders soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to medium. Infiltration is moderate, and permeability is moderate to slow. The available moisture capacity is moderate to low.

This soil is easy to work and can be tilled within a fairly wide range of moisture content without clodding or crusting. It is suited to many different crops and is productive under good management. Erosion is a slight to moderate hazard, however, if cultivated crops are grown. (Capability unit IIe–44; woodland suitability group 9; wildlife group 1)

Enders loam, 2 to 6 percent slopes, eroded (EdB2).—This soil has a surface layer of yellowish-brown loam that is 6 inches thick. Below the surface layer is about 20 inches of red, firm silty clay loam. This layer overlies mottled red and brown silty clay. Interbedded shale and sandstone bedrock are at a depth of about 42 inches. Small fragments of sandstone and shale are common on the surface and in the profile. Shallow rills and gullies are in some fields.

Mapped with this soil are small areas that have a plow layer of yellowish-red clay loam. Also included are small areas of Townley, Montevallo, and Hanceville soils, and small areas that have a subsoil of yellowish-brown to strong-brown silty clay loam or silty clay.

This Enders soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to medium. Infiltration is moderate, and permeability is moderate to slow. The available moisture capacity is moderate to low.

This soil is easy to work, except in the few places where the texture of the plow layer is clay loam. It is suited to many different crops, but erosion is a slight to moderate hazard if cultivated crops are grown. (Capability unit IIe–44; woodland suitability group 9; wildlife group 1)

Enders clay loam, 2 to 6 percent slopes, severely eroded (EcB3).—The plow layer of this soil is reddish-brown, firm, slightly sticky clay loam. It is 4 to 5 inches thick and is underlain by about 20 inches of red, firm silty clay. The silty clay overlies mottled red and brown silty clay. Bedrock of interbedded shale and sandstone is at a depth of about 36 inches. Small areas where the plow layer is red, sticky clay loam or silty clay are common. A few shallow rills and gullies are in most fields.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium. Infiltration is slow, and permeability is moderate to slow. The available moisture capacity is low.

This soil can be tilled only within a narrow range of moisture content. It clods if worked too wet or too dry. When the soil dries, a crust forms that may cause poor crop stands. This soil is suited to a fairly large number of crops, but erosion is a moderate hazard if cultivated crops are grown. (Capability unit IIIe–44; woodland suitability group 10; wildlife group 8)

Enders loam, 6 to 10 percent slopes (EdC).—This soil has a dark grayish-brown surface layer that is 3 inches thick. Below the surface layer is 7 inches of yellowish-brown loam. The subsoil is red, firm silty clay that is 24

inches thick and is mottled with brown in the lower part. It is underlain by red and yellowish-brown, firm silty clay. Bedrock of shale and sandstone is at a depth of about 40 inches. In many places small fragments of shale and sandstone are on the surface.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Infiltration is moderate, and permeability is moderate to slow. The available moisture capacity is moderate to low.

This soil is easy to work and can be cultivated within a wide range of moisture content without clodding or crusting. It is suited to a number of different crops, but erosion is a moderate hazard if cultivated crops are grown. (Capability unit IIIe–44; woodland suitability group 9; wildlife group 1)

Enders loam, 6 to 10 percent slopes, eroded (EdC2).—The plow layer of this soil is brown, very friable loam about 5 inches thick. The subsoil is about 30 inches thick. The upper part of the subsoil is red, firm silty clay, and the lower part is red, firm silty clay that is mottled with yellowish brown. The underlying material is mottled red, brown, and gray silty clay. Bedrock of shale and sandstone is at a depth of about 40 inches. Rills and shallow gullies are in most fields. In places there are many fragments of shale and sandstone on the surface. In less than 1 percent of the acreage, the subsoil is yellowish-brown to strong-brown silty clay loam to silty clay.

Mapped with this soil are small areas where the surface layer is yellowish-red to red, sticky clay loam. Also included are small areas of Townley and Montevallo soils.

This Enders soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Infiltration is moderate, and permeability is moderate to slow. The available moisture capacity is moderate to low.

This soil is easy to work, except in small areas where the plow layer is clay loam. It is well suited to all of the crops grown locally, but erosion is a moderate hazard if cultivated crops are grown. (Capability unit IIIe–44; woodland suitability group 9; wildlife group 1)

Enders clay loam, 6 to 10 percent slopes, severely eroded (EcC3).—The plow layer of this soil is reddish-brown clay loam. It is 4 inches thick and is underlain by 20 inches of red, firm silty clay. Below is mottled red and brown, firm silty clay. Bedrock of interbedded shale and sandstone is at a depth of about 34 inches. Mapped with this soil are small areas where the plow layer is red silty clay. Rills and a few shallow gullies are common.

Surface runoff is rapid. Infiltration is slow, and permeability is moderate to slow. The available moisture capacity is low.

This soil is difficult to work. It can be tilled only within a narrow range of moisture content, and it clods if it is worked when too wet or too dry. When the soil is dry, a crust forms that may cause crops to make poor yields. Although the range of suitability for crops is fairly wide, this soil is only poorly suited to cultivation because the hazard of erosion is moderate to severe. (Capability unit IVe–444; woodland suitability group 10; wildlife group 8)

Enders loam, 10 to 15 percent slopes (EdD).—The surface layer of this soil is dark grayish-brown loam. It is 3 inches thick and is underlain by 6 inches of yellowish-brown loam. The loam overlies 15 inches of red, firm silty clay that is underlain by mottled red and brown silty clay. Shale bedrock is at a depth of about 36 inches. Small fragments of sandstone and shale are common on the surface.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Infiltration is moderate, and permeability is moderate to slow. The available moisture capacity is moderate to low.

This soil is fairly easy to work, and its range of suitability for crops is fairly wide. It is only poorly suited to cultivated crops, however, because of the moderately steep slopes and the moderate to severe hazard of erosion. (Capability unit IVe–19; woodland suitability group 9; wildlife group 4)

Enders loam, 10 to 15 percent slopes, eroded (EdD2).—The plow layer of this soil is brown loam that is 5 inches thick. It overlies about 18 inches of yellowish-red, firm silty clay. Below is 12 inches of mottled red and brown, firm silty clay. Bedrock of shale and sandstone is at a depth of about 36 inches. Small areas where the yellowish-red silty clay subsoil is exposed are common. Many small fragments of sandstone and shale are on the surface. Mapped with this soil are small areas of Townley and Montevallo soils.

This Enders soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Infiltration is moderate, and permeability is moderate to slow. The available moisture capacity is moderate to low.

This soil is fairly easy to work, except in those areas where the subsoil of yellowish-red silty clay is exposed. The range of suitability for crops is fairly wide. This soil is only poorly suited to cultivated crops, however, because of the moderately steep slopes and the moderate to severe hazard of erosion. (Capability unit IVe–19; woodland suitability group 9; wildlife group 4)

Enders clay loam, 10 to 15 percent slopes, severely eroded (EcD3).—The plow layer of this soil is yellowish-red, slightly sticky clay loam that is 3 inches thick. The subsoil is red, firm silty clay about 20 inches thick. The underlying material is mottled yellowish-red and yellowish-brown, firm silty clay. Bedrock of shale and sandstone is at a depth of about 32 inches. There are a few shallow and deep gullies. Small areas where the plow layer is red, sticky clay loam are common.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid to very rapid. Infiltration is slow, and permeability is moderate to slow. The available moisture capacity is low.

This soil is difficult to work and can be tilled only within a narrow range of moisture content. It is not suited to row crops, because of the severe hazard of erosion, but it is suited to permanent pasture, hay, or forest. (Capability unit VIe–111; woodland suitability group 10; wildlife group 8)

Greenville Series

In the Greenville series are deep, well-drained, productive soils formed in thick, unconsolidated beds of sandy clay loam or sandy clay marine sediments. The soils oc-

cupy the broader, nearly level to sloping ridgetops on uplands of the Coastal Plain. The following describes a representative profile:

0 to 6 inches, dark reddish-brown, very friable loam.
6 to 30 inches, dark-red, friable clay.
30 to 60 inches +, dark-red, friable fine sandy clay.

The color of the subsoil ranges from red to dark red. The texture of the subsoil ranges from clay loam to clay.

These soils are medium acid to strongly acid. They are low in natural fertility and in content of organic matter. Water enters them at a moderate to slow rate and moves at a moderate rate through the profile. The root zone is deep, and the available moisture capacity is moderate. These are among the most productive soils of uplands in the county. Crops grown on them make good response to fertilizer and lime.

Except for small, isolated areas, these soils are in the community of Lawrence Mill and in an area south and southwest of Winfield. The total acreage is small, but nearly all of it is intensively cropped. The soils are well suited to all of the crops grown locally, but erosion is a hazard if cultivated crops are grown.

Greenville loam, 0 to 2 percent slopes (GmA).—The surface layer of this soil is dark reddish-brown loam. It is 6 inches thick and is underlain by 30 or more inches of dark-red, friable clay loam or clay.

This soil is medium acid to strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to very slow. Infiltration and permeability are moderate, and this soil has moderate available moisture capacity.

This soil is easy to work and can be tilled within a wide range of moisture content without clodding or crusting. Under good management, high yields of all of the crops grown locally are obtained. (Capability unit I–42; woodland suitability group 3; wildlife group 1)

Greenville loam, 2 to 6 percent slopes, eroded (GmB2).—This soil has a plow layer of dark reddish-brown loam that is 6 inches thick and is underlain by 24 inches of dark-red, friable clay. Below the clay is 30 inches of dark-red fine sandy clay. Sheet erosion has removed part of the surface layer of this soil, and part of the subsoil has been turned up in plowing. In most places the plow layer rests directly on the subsoil. Some fields have shallow rills and gullies. In places few to many chert and quartz pebbles are on the surface.

Mapped with this soil are small areas of Ruston, Ora, and Shubuta soils. Also included are small areas that have a surface layer of reddish-brown clay loam.

This Greenville soil is medium acid to strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to medium. Infiltration and permeability are moderate, and this soil has moderate available moisture capacity.

This is one of the most productive soils of uplands in the county. It is easy to work and can be tilled within a wide range of moisture content without clodding or crusting. The soil is suited to many different crops, but erosion is a slight to moderate hazard if cultivated crops are grown. (Capability unit IIe–11; woodland suitability group 3; wildlife group 1)

Greenville loam, 6 to 10 percent slopes, eroded (GmC2).—This soil has a surface layer of dark reddish-brown loam that is 5 inches thick. The surface layer is underlain by about 20 inches of dark-red, friable clay loam. Below the clay loam is dark-red, friable sandy clay loam. A few shallow rills and gullies are in most fields. Mapped with this soil are small areas that have a plow layer of reddish-brown clay loam.

This Greenville soil is medium acid to strongly acid and is low in natural fertility and content of organic matter. Surface runoff is medium to rapid. Infiltration, permeability, and available moisture capacity are moderate.

This soil is easy to work and can be cultivated within a wide range of moisture content without clodding or crusting. It is well suited to all of the crops grown locally, but erosion is a moderate hazard if cultivated crops are grown. (Capability unit IIIe–12; woodland suitability group 3; wildlife group 1)

Greenville clay loam, 2 to 10 percent slopes, severely eroded (GcC3).—This soil has a plow layer of dark reddish-brown, sticky clay loam that is 4 inches thick. It consists largely of material from the subsoil. Below the plow layer is 30 inches of dark-red clay loam. The clay loam is underlain by dark-red fine sandy clay loam. Most fields have a few rills and shallow gullies.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Water enters this soil slowly and moves at a moderate rate through the profile. The available moisture capacity is low to moderate.

This soil is difficult to work and can be tilled only within a narrow range of moisture content. If it is tilled when too wet, it forms clods and a surface crust as it dries. The crust often causes poor stands of crops. Under good management, however, this soil is productive, and it is suited to a fairly large number of crops. Erosion is a moderate to severe hazard if cultivated crops are grown. (Capability unit IVe–111; woodland suitability group 3; wildlife group 8)

Guin Series

In the Guin series are deep, excessively drained, gravelly soils of the Coastal Plain. The soils formed in thick beds of sandy and gravelly marine sediments. They are on narrow ridgetops and on moderately steep hillsides. The following describes a representative profile:

0 to 4 inches, grayish-brown gravelly sandy loam.
4 to 20 inches, brown gravelly sandy loam; 60 to 75 percent is gravel.
20 to 72 inches, pale-brown sand and gravel; 75 to 80 percent is gravel.

The content of gravel ranges from 50 to 90 percent. The gravel is mainly chert. It consists of pebbles one-fourth of an inch to 2 inches in diameter.

These soils are very strongly acid and have low natural fertility. The content of organic matter is also low. Infiltration and permeability are rapid to very rapid. The available moisture capacity is very low, and the root zone is shallow. Field crops grown on these soils make poor response to lime and fertilizer. The soils are probably best suited to trees.

The Guin soils are widely distributed throughout the western two-thirds of the county. Their total acreage is small, and nearly all of the acreage is wooded. These soils are poorly suited to most cultivated crops.

Guin gravelly sandy loam, 6 to 15 percent slopes (GnD).—This is the only Guin soil mapped in the county. It has a surface layer of dark grayish-brown gravelly fine sandy loam that is 4 inches thick. The surface layer is underlain by 16 inches of brown gravelly sandy loam that is 60 to 85 percent gravel. The gravelly sandy loam overlies a layer of sand and gravel that is several feet thick and is 75 to 85 percent gravel. The pebbles range from one-fourth of an inch to 2 inches in diameter. Strata of silt or clay that are 2 to 6 inches thick are at various depths in the lower horizons. Mapped with this soil are small areas where the slopes are more than 15 percent.

This soil is very strongly acid. Its content of organic matter is low, and its natural fertility is very low. Surface runoff is medium to rapid, and infiltration and permeability are rapid or very rapid. The available moisture capacity is very low.

This soil is not suited to cultivated crops, because it is moderately steep and holds only a small amount of moisture and plant nutrients available. It is suited to permanent pasture or hay, but its best use is probably for trees. Erosion is a moderate hazard if cultivated crops are grown. (Capability unit VIe–19; woodland suitability group 6; wildlife group 4)

Gullied Land (Gu)

This land type is dissected by gullies, and soil profiles can no longer be distinguished in most areas. Most of the gullies have cut into and have exposed soil material that is friable to compact and is unproductive. The areas between gullies are not suitable for cultivated crops, because of their shape and small size. The soil material in the gullied areas is similar to that of the Ruston, Shubuta, Cuthbert, and Montevallo soils.

This land type is strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid, and infiltration and permeability are very slow.

This land type is better suited to trees than to field crops. Reclaiming it for use as cropland is not feasible, because of the low productivity of the remaining soil material. (Capability unit VIIe–49; woodland suitability group 13; wildlife group 8)

Hanceville Series

In the Hanceville series are deep, well-drained, gently sloping soils that formed in material weathered from sandstone. The soils occupy fairly wide ridgetops on the Southern Appalachian Plateau. The following describes a representative profile:

0 to 5 inches, dark reddish-brown, very friable loam.
5 to 37 inches, dark-red, friable clay loam.
37 to 48 inches, yellowish-red sandy clay loam mottled with red and brown.
48 inches +, acid sandstone.

The color of the subsoil ranges from red to dark red. The texture of the subsoil ranges from heavy sandy clay loam to silty clay or clay.

These soils are very strongly acid. Their natural fertility is moderate to low, and their content of organic matter is low. Water enters these soils readily and moves at a moderate rate through the profile. The available moisture capacity is moderate, and the root zone is deep. These are among the most productive soils of uplands in the county. Crops grown on them make good response to lime and fertilizer.

The Hanceville soils are widely distributed over the eastern one-third of the county. Their total acreage is small. Nearly all of it is intensively cropped. The soils are well suited to all of the crops grown locally, but erosion is a hazard if cultivated crops are grown.

Hanceville loam, 2 to 6 percent slopes, eroded (HaB2).—This is the only Hanceville soil mapped in the county. It has a plow layer of dark reddish-brown, very friable loam that is 5 inches thick and is underlain by 32 inches of dark-red, friable clay loam. Below the clay loam is 10 inches of yellowish-red sandy clay loam that is mottled with red and brown. In places this soil formed in material weathered from interbedded sandstone and shale, and in those areas the texture ranges to silty clay or clay. A few fragments of shale and sandstone are on the surface. Many fields contain shallow rills and gullies. Part of the subsoil is turned up when this soil is plowed. In most places the plow layer rests directly on the subsoil. Mapped with this soil are small areas where the slope is more than 6 percent.

This Hanceville soil is very strongly acid. Its natural fertility is moderate to low, and its content of organic matter is low. Surface runoff is slow to medium. Infiltration and permeability are moderate, and this soil has moderate available moisture capacity.

This is one of the most productive soils of uplands in the county. It is easy to work and is suited to a number of different crops. Erosion is a slight to moderate hazard, however, if cultivated crops are grown. (Capability unit IIe–11; woodland suitability group 9; wildlife group 1)

Iuka Series

In the Iuka series are deep, moderately well drained soils that are nearly level. The soils are in depressions in the uplands, along small drainageways, and on flood plains. They formed in general alluvium that washed mainly from soils of the Coastal Plain uplands. These soils have lenses of sand throughout the profile. The following describes a representative profile:

0 to 20 inches, brown to dark-brown, friable silt loam.
20 to 60 inches, light brownish-gray loam mottled with brown and gray.
60 to 72 inches +, mottled gray and brown silt loam.

The color of the surface layer ranges from very dark brown to light yellowish brown. The texture of the soil material below the surface layer ranges from sandy loam to loam. Depth to mottling ranges from 18 to 30 inches.

These soils are very strongly acid. Their content of organic matter is low, and their natural fertility is moderate. Crops grown on them respond well to lime and fertilizer. Water enters these soils readily and moves at a moderate rate through the profile. The available moisture capacity is high, and the root zone is moderately deep. These soils have a seasonally high water table. They are waterlogged during wet seasons.

The Iuka soils are widely distributed throughout the county, but their total acreage is fairly small. They are among the most productive soils in the county and are well suited to intensive use. Most of the areas have been cleared and are used for cultivated crops or pasture. Erosion is

not a hazard, except in areas where floods cause scouring.

Iuka silt loam (Ik).—This soil has a plow layer of dark grayish-brown silt loam that is 6 inches thick. Below the plow layer is 14 inches of brown to dark-brown silt loam. The silt loam is underlain by light brownish-gray loam that is mottled with brown and gray. Lenses of sand occur throughout the profile. In places few to many quartz and chert pebbles are on the surface and in the profile. Mapped with this soil are small areas of Ochlockonee and Mantachie soils.

This Iuka soil is very strongly acid. Its natural fertility is moderate, and its content of organic matter is low. Surface runoff is slow or very slow. Infiltration and permeability are moderate, and the available moisture capacity is high. This soil is subject to occasional flooding, mainly in winter and in spring. Occasionally, the floodwaters damage crops. Usually, water stands on the surface for a few days after the floodwaters have receded. The hazard of flooding and the standing water restrict suitability of this soil for some crops.

This soil is well suited to intensive use because it is nearly level, easy to work, and has a thick root zone and high moisture-supplying capacity. Erosion is not a problem, except in areas where flooding causes scouring. (Capability unit IIw–12; woodland suitability group 2; wildlife group 5)

Iuka-Ochlockonee complex, local alluvium (Io).—The soils in this complex are in depressions in the uplands and along small drainageways. They are mapped together because they are so intricately mixed and their boundaries are so indistinct that it is not practical to show the soils of the two series separately on the soil map. Normally, the soils are not flooded, but they receive seepage water and have a high water table during wet seasons.

Iuka soils occupy about 75 percent of the acreage. They have a surface layer of dark grayish-brown fine sandy loam that is 24 inches thick. Below the surface layer is brown loam that is mottled with pale brown and gray.

Ochlockonee soils occupy about 25 percent of the acreage. They have a surface layer of dark-brown silt loam that is 16 inches thick. Below their surface layer is 30 inches of dark yellowish-brown silt loam.

In the soils of this complex, the texture of the surface layer ranges from sandy loam to silt loam. The texture of the soil material below the surface layer ranges from sandy loam to loam. Depth to gray and brown mottling ranges from 18 to 30 inches. In places a few pebbles of chert and quartz are on the surface and in the profile. Mapped with this soil, in the community of Lawrence Mill, are a few small areas that consist almost entirely of Ochlockonee soils.

The soils of this complex are strongly acid to very strongly acid. Their natural fertility is moderate, and their content of organic matter is low. Infiltration and permeability are moderate. Surface runoff is slow to very slow.

These soils are easy to work and are suited to intensive use because they are nearly level, have a thick root zone, and have high available moisture capacity. The soils receive seepage water, however, which is likely to be a problem during wet seasons.

These are among the most productive soils in the county. Erosion is not a problem. (Capability unit IIw–11; woodland suitability group 2; wildlife group 5)

Leadvale Series

In the Leadvale series are deep, moderately well drained, gently sloping soils that have a fragipan. The soils are on foot slopes and colluvial fans on the Southern Appalachian Plateau. The following describes a representative profile:

0 to 6 inches, brown, very friable loam.
6 to 30 inches, yellowish-brown, friable silt loam.
30 to 40 inches, yellowish-brown, compact sandy clay loam mottled with light gray and brown.

The texture of the subsoil ranges from loam to silty clay loam, and the color ranges from brown to strong brown. Depth to the fragipan ranges from 20 to 32 inches.

These soils are strongly acid to very strongly acid, and their natural fertility and content of organic matter are low. Crops grown on these soils, however, make good response to lime and fertilizer. Water enters the soils readily; it moves at a moderate rate through the profile to the fragipan, and then it moves more slowly. Water and roots penetrate the pan slowly. The subsoil is waterlogged during wet seasons, mainly late in winter and in spring. The available moisture capacity is moderate, and the root zone is moderately deep.

The Leadvale soils are widely distributed throughout the eastern one-third of the county, but their total acreage is fairly small. Formerly, most of the acreage was used for cultivated crops, but now only about one-third of it is cropped. The rest is idle or in forests of loblolly or Virginia pine. These soils are suited to most of the crops grown locally. Erosion is a hazard, however, if cultivated crops are grown.

Leadvale loam, 2 to 6 percent slopes (LdB).—This is the only Leadvale soil mapped in the county. It has a surface layer of brown loam that is 6 inches thick. Below the surface layer is 24 inches of yellowish-brown, friable silt loam. The silt loam is underlain by yellowish-brown, compact and brittle sandy clay loam that is mottled with gray. In most places fragments of sandstone and shale are on the surface.

Mapped with this soil are small areas of Montevallo and Sequatchie soils. Also included are small areas where the slopes are less than 2 percent.

This Leadvale soil is strongly acid to very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to medium. Water enters this soil readily. It moves at a moderate rate through the profile to the fragipan; then it moves more slowly. The available moisture capacity is moderate.

This soil is easy to work, but it clods if worked too wet or too dry. When the soil dries, a crust forms that may cause crops to make poor stands. This soil is suited to most of the crops grown locally. Under good management it is productive, but erosion is a slight to moderate hazard if cultivated crops are grown. (Capability unit IIe–15; woodland suitability group 8; wildlife group 1)

Leaf Series

Soils of the Leaf series are deep and poorly drained, and they have a claypan. They are on low stream terraces adjacent to steep hills or terrace escarpments. The soils formed in fine-textured alluvium washed from uplands of the Coastal Plain.

The surface layer is dark-gray silt loam. It is 6 inches thick and overlies 30 inches of silty clay that is light brownish-gray mottled with brown. The silty clay is underlain by gray silty clay or clay mottled with brown.

In this county the Leaf soils are mapped only in an undifferentiated unit with the Mantachie and Iuka soils.

Magnolia Series

In the Magnolia series are deep, well-drained, sloping soils of the Coastal Plain. The soils are mainly on narrow ridgetops in the uplands. The following describes a representative profile:

0 to 5 inches, brown, very friable fine sandy loam.
5 to 33 inches, dark-red clay; blocky structure.
33 to 60 inches, dark-red fine sandy clay loam.

The color of the subsoil ranges from reddish brown to dark red. The texture of the subsoil ranges from sandy clay to clay.

These soils are very strongly acid, and their natural fertility and content of organic matter are low. Water enters these soils readily and moves at a moderate rate through the profile. The root zone is deep, and the available moisture capacity is moderate. These are among the most productive soils of uplands in the county. Crops grown on them make good response to lime and fertilizer.

Except for small, isolated tracts, these soils are in the southeastern part of the county. They are mainly near Boley. The total acreage is small, but nearly all of it has been cleared and is used for cultivated crops. The soils are well suited to all of the crops grown locally. Erosion is a hazard, however, if cultivated crops are grown.

Magnolia fine sandy loam, 2 to 10 percent slopes, eroded (MaC2).—This is the only Magnolia soil mapped in the county. It has a surface layer of brown to dark-brown fine sandy loam that is 5 inches thick. Below the surface layer is 28 inches of dark-red clay that overlies 30 inches of dark-red fine sandy clay loam. The underlying material is red sandy clay loam. A few pebbles of chert and quartz are on the surface and in the profile. In many fields there are a few shallow rills and gullies.

Mapped with this soil are small patches where the surface layer is reddish-brown sandy clay loam. Also included are small areas of Ruston, Ora, and Greenville soils and small areas where the surface layer is 8 to 12 inches thick.

This Magnolia soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to rapid. Infiltration, permeability, and the available moisture capacity are moderate.

This soil is easy to work and can be tilled within a wide range of moisture content without clodding or crusting. It is suited to all of the crops grown locally, and under good management it is productive. Erosion is a moderate hazard, however, if cultivated crops are grown. (Capability unit IIIe–12; woodland suitability group 3; wildlife group 1)

Mantachie Series

In the Mantachie series are deep, somewhat poorly drained soils that are nearly level. The soils are in depressions in the uplands, along small drainageways, and on flood plains. They formed in alluvium. Lenses of sand occur throughout the profile. The following describes a representative profile:

0 to 6 inches, brown, very friable fine sandy loam.
6 to 31 inches, dark-gray loam mottle with brown.
31 to 45 inches, gray fine sandy loam mottled with brown.

The texture of the soil material below the surface layer ranges from fine sandy loam to sandy clay loam. The color of that material is gray or mottled gray and brown between a depth of 6 and 18 inches.

These soils are strongly acid to very strongly acid. Their content of organic matter is low, and their natural fertility is moderate. Crops grown on these soils make good response to lime and fertilizer. Water enters these soils readily and moves at a moderate to rapid rate through the profile. The root zone is moderately deep, and the available moisture capacity is moderate. The water table is seasonally high. The soil material below the surface layer is waterlogged during wet seasons.

The Mantachie soils are widely distributed throughout the county, and their acreage is fairly large. About half of the acreage has been cleared and is used mainly for corn or pasture. In the areas that have not been cleared, the dominant trees are gum, maple, oak, and poplar, but there are some pines. The imperfect drainage, the hazard of flooding, and the seasonally high water table limit the range of suitability for crops.

Mantachie fine sandy loam (Mc).—This soil has a plow layer of brown fine sandy loam that is 6 inches thick. Below the surface layer is 24 inches of dark-gray loam that is mottled with brown. The loam is underlain by gray fine sandy loam mottled with brown. This soil has lenses of sand throughout the profile. In places pebbles of quartz and chert are on the surface and in the profile. The soil is subject to occasional flooding, mainly in winter and in spring.

This soil is strongly acid to very strongly acid. Its content of organic matter is low, and its natural fertility is moderate. Surface runoff is slow to very slow. Infiltration is moderate, and permeability is moderate to rapid. The available moisture capacity is moderate.

This soil is easy to work and can be tilled within a fairly wide range of moisture content without clodding or crusting. It is subject to flooding, however, and crops are damaged occasionally by floodwaters. Usually, water stands on the surface for a few days after the floodwaters have receded. The hazard of flooding and the imperfect drainage restrict the suitability of this soil for some crops. Erosion is not a hazard, except in areas where floods cause scouring. (Capability unit IIw–12; woodland suitability group 2; wildlife group 6)

Mantachie soils, local alluvium (Mh).—In most places these soils have a brown, loamy surface layer that is 7 inches thick. The surface layer overlies 14 inches of light brownish-gray fine sandy loam that is mottled with gray and brown. The fine sandy loam is underlain by gray loam mottled with brown. These soils are in depressions in the uplands and along small drainageways. Lenses of sand occur throughout the profile. These soils are less silty than the local alluvium phase of the Stendal soils. Mapped with them are small areas where the underlying material is silt loam.

The texture of the surface layer ranges from sandy loam to silt loam. The texture of the underlying material

ranges from sandy loam to loam. Normally, these soils are not subject to flooding, but water stands on the surface for fairly long periods in winter and in spring.

These soils are very strongly acid. Their content of organic matter is low, and their natural fertility is moderate. Surface runoff is slow or very slow. Infiltration is moderate, and permeability is moderate to rapid. The available moisture capacity is moderate.

These soils are well suited to cultivated crops because they are easy to work, are nearly level, and have a moderately deep root zone. Their imperfect drainage and the seepage water they receive, however, limit their suitability for some crops. If these soils are drained and protected from seepage water, they are highly productive. (Capability unit IIw–11; woodland suitability group 2; wildlife group 6)

Mantachie, Leaf, and Iuka soils (Mk).—The soils in this undifferentiated unit are on bottom lands along the Sipsey River, mainly in the area extending southward from Fayette to the Tuscaloosa County line. Nearly all of the acreage is wooded, and the underbrush is so thick that mapping the soils separately was not feasible. Also, small sloughs or swamps form an intricate network, and the lack of roads or trails makes the areas almost inaccessible.

Mantachie soils occupy about 35 percent of the acreage. They are adjacent to the Iuka soils but are at a slightly lower elevation. The Mantachie soils are somewhat poorly drained. They have a surface layer of dark grayish-brown loam that is 9 inches thick and overlies 25 inches of gray loam mottled with brown. The loam is underlain by mottled gray and brown silt loam.

Leaf soils occupy about 30 percent of the acreage. They are on low stream terraces at the outer edge of the bottom lands, adjacent to steep hills or terrace escarpments. The Leaf soils are poorly drained. They have a surface layer of dark gray silt loam that is 6 inches thick. Below the surface layer is 30 inches of light brownish-gray silty clay mottled with brown. The underlying material is gray silty clay or clay mottled with brown.

Iuka soils occupy about 20 percent of the acreage. In most places they occur along the river in strips or bands about 300 feet wide. The Iuka soils are moderately well drained. They generally have a surface layer of yellowish-brown loam that is 20 inches thick and overlies 20 inches of dark yellowish-brown loam mottled with gray. The underlying material is mottled light-gray and brown silt loam. In places the Iuka soils have a layer of sandy loam or loamy sand at a depth below 24 to 30 inches. Also, in small areas the texture of the surface layer is silt loam.

Mapped with the soils of this undifferentiated unit are small areas where the subsoil is yellowish-red, friable sandy clay loam. Also included are small areas of Bibb, Ochlockonee, Stough, and Myatt soils. These included areas make up about 15 percent of the acreage.

The soils of this undifferentiated unit are strongly acid to very strongly acid. Their natural fertility and content of organic matter are low to moderate. Surface runoff is slow to very slow, and infiltration and permeability are moderate to slow. The available moisture capacity is moderate to high. These soils are not suited to row crops, because of their poor drainage, the seasonally high water table, the long periods when water stands on the surface, and the hazard of frequent flooding. Draining these soils is difficult because the outlets of the ditches are frequently clogged and destroyed as a result of the fluctuating level of the floodwaters and of the water in the streams. In places the normal level of the river is at a higher elevation than the area to be drained. Because the hazard of flooding and the difficulty of drainage are variable, the soils have not been placed in capability units or in a wildlife group. (Woodland suitability group 2)

Mashulaville Series

In the Mashulaville series are deep, poorly drained, nearly level soils that have a fragipan. The soils are on flats or in slight depressions on uplands of the Coastal Plain. The following describes a representative profile:

0 to 3 inches, very dark gray, very friable loam.
3 to 14 inches, gray, very friable fine sandy loam mottled with brown.
14 to 30 inches, gray, compact, brittle loam; many brown mottles.
30 to 54 inches, gray, firm silty clay loam; many brown mottles.

The texture of the subsoil ranges from fine sandy loam to sandy clay loam. In most places the color of the subsoil is gray mottled with brown. Depth to the fragipan ranges from 12 to 24 inches.

These soils are very strongly acid to extremely acid. Their natural fertility and content of organic matter are low. Water enters these soils at a moderate to slow rate and moves slowly to very slowly through the profile. The root zone is shallow, and the available moisture capacity is moderate. These soils have a seasonably high water table; water stands on the surface for long periods during wet seasons.

The Mashulaville soils are widely distributed over the western two-thirds of the county, but their total acreage is small. Most of the areas are wooded. The dominant trees are gum, maple, and swamp oak, but there are some pines. The cleared areas are used for pasture; without artificial drainage, these soils are too wet for cultivated crops. Erosion is not a hazard.

Mashulaville loam (Mm).—This is the only Mashulaville soil mapped in the county. It has a surface layer of dark-gray loam that is 3 inches thick. Below the surface layer is 10 inches of gray fine sandy loam mottled with brown. The fine sandy loam is underlain by a compact and brittle fragipan of gray loam mottled with brown The underlying material is gray silty clay loam that has many brown mottles. Mapped with this soil are small areas of Pheba and Savannah soils.

This Mashulaville soil is very strongly acid to extremely acid. Its natural fertility and content of organic matter are low. Surface runoff is slow to very slow. Water enters this soil at a moderate to slow rate and moves slowly to very slowly through the profile. The available moisture capacity is moderate.

This soil is difficult to work. It can be tilled only within a narrow range of moisture content and clods if worked too wet or too dry. It is not suited to row crops, because of the poor drainage, the high water table, and the long periods of ponding. The subsoil is waterlogged for long periods. This soil is probably best suited to pasture or trees. Erosion is not a hazard. (Capability unit IVw–11; woodland suitability group 2; wildlife group 7)

Montevallo Series

In the Montevallo series are shallow and very shallow, excessively drained soils formed in material weathered from shale (fig. 6). The soils are on narrow, sloping ridgetops and on moderately steep or steep hillsides of the Southern Appalachian Plateau. The following describes a representative profile:

0 to 6 inches, yellowish-brown shaly silt loam.
6 to 22 inches, yellowish-brown shaly silty clay loam; 75 to 90 percent is fragments of shale.
22 inches +, light olive-brown, highly fractured, level, thin-bedded, fissile shale.

The texture of the underlying material ranges from loam to silty clay loam, and in most places it is yellowish brown. Fragments of shale make up 50 to 90 percent of the profile.

These soils are very strongly acid, and their natural fertility and content of organic matter are low. Water enters these soils at a moderate to slow rate; it moves at a moderate to rapid rate through the profile. The root zone is shallow, and the available moisture capacity is very low.

The Montevallo soils are widely distributed throughout the eastern one-third of the county, and their total acreage is large. Nearly all of the areas are wooded. The native vegetation is mixed hardwoods and pine. These soils are not suited to cultivated crops, because of their shallow root zone, the very low available moisture capacity, and the dominantly steep slopes. Erosion is a hazard if cultivated crops are grown.

Figure 6.—**Typical profile of Montevallo shaly silt loam, showing the underlying level-bedded shale.**

Montevallo shaly silt loam, 6 to 10 percent slopes (MoC).—This soil has a surface layer of yellowish-brown shaly silt loam that is 10 inches thick. The surface layer is underlain by 6 inches of yellowish-brown shaly silt loam that is 75 percent shale fragments. Bedrock of level-bedded shale is at a depth of 10 to 20 inches. In places many fragments of shale are on the surface.

Mapped with this soil are small areas where the slopes are less than 6 percent. Also included are small areas of Townley, Enders, and Leadvale soils.

This Montevallo soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Water enters this soil at a moderate to slow rate and moves at a moderate to rapid rate through the profile. The available moisture capacity is very low; plants may be damaged by lack of water during even a short period of drought.

This soil is fairly easy to work. It is poorly suited to cultivated crops, however, because it is shallow over bedrock and holds only a small amount of moisture available to plants. If this soil is cultivated, the yields are usually low and there is a hazard of erosion. This soil is better suited to permanent pasture, hay, or trees than to field crops. (Capability unit IVe–49; woodland suitability group 12; wildlife group 4)

Montevallo shaly silt loam, 6 to 10 percent slopes, severely eroded (MoC3).—This soil has a surface layer of dark yellowish-brown shaly silt loam that is 2 inches thick. The surface layer overlies 6 inches of yellowish-brown and pale-brown shaly silty clay loam. Below the shaly silty clay loam is variegated yellowish-brown and gray silty clay that is more than 75 percent fragments of shale. Shale bedrock is at a depth of 8 to 16 inches. A few shallow gullies and a few deep gullies are common in most old fields. In places many fragments of shale and sandstone are on the surface. Shale bedrock is exposed in some places. Mapped with this soil are small areas where the slopes are less than 6 percent.

This Montevallo soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Water enters this soil slowly and moves at a moderate to rapid rate through the profile. The available moisture capacity is very low; plants may be damaged by lack of water during even a short period of drought.

This soil is difficult to work because of the large number of shale fragments in the plow layer. It is not suited to cultivated crops, because of the bedrock near the surface, the moderate to severe hazard of erosion, and the shallow root zone. This soil is suited to permanent pasture, hay, or trees. (Capability unit VIe–111; woodland suitability group 12; wildlife group 4)

Montevallo shaly silt loam, 10 to 15 percent slopes (MoD).—This soil has a surface layer of dark grayish-brown shaly silt loam that is 3 inches thick. The surface layer overlies 5 inches of yellowish-brown shaly silt loam. Below the shaly silt loam is 6 inches of yellowish-brown and pale-brown shaly silty clay loam that contains more than 50 percent fragments of shale. Bedrock of level-bedded shale is at a depth of 10 to 20 inches. In places many fragments of shale and sandstone are on the surface.

Mapped with this soil are small areas of Townley, Enders, and Leadvale soils.

This Montevallo soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Water enters this soil at a moderate to slow rate and moves at a moderate to rapid rate through the profile. The available moisture capacity is very low; plants may be damaged by lack of water during even a very short period of drought.

Because of its shallow root zone, very low available moisture capacity, and the moderate to severe hazard of erosion, this soil is not suited to cultivated crops. It is suited to permanent pasture, hay, or trees. Productivity is low. (Capability unit VIe–19; woodland suitability group 12; wildlife group 4)

Montevallo shaly silt loam, 10 to 15 percent slopes, severely eroded (MoD3).—This soil has a surface layer of brown to dark-brown shaly silt loam that is 2 inches thick. The surface layer overlies 12 inches of variegated yellowish-brown, gray, and light brownish-gray silty clay that is more than 60 percent fragments of shale. Bedrock of level-bedded shale is at a depth of 8 to 16 inches. In places many fragments of shale and sandstone are on the surface and in the profile. A few shallow and deep gullies are common in most fields. In places shale is exposed.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid to very rapid. Water enters this soil slowly and moves at a moderate to rapid rate through the profile. The available moisture capacity is very low; plants may be damaged by lack of water during even a short period of drought.

This soil is not suited to cultivated crops, because it is shallow over bedrock, the available moisture capacity is very low, and the hazard of erosion is severe. Its best use is probably for trees, but it is suited to permanent pasture or hay. (Capability unit VIIe–49; woodland suitability group 12; wildlife group 4)

Montevallo shaly silt loam, 15 to 50 percent slopes (MoE).—This soil has a surface layer of very dark gray shaly silt loam that is 2 inches thick. The surface layer overlies 4 inches of yellowish-brown shaly silt loam. The shaly silt loam is underlain by 8 inches of yellowish-brown shaly silty clay loam that is more than 75 percent fragments of shale. The underlying material is light olive-brown, partly weathered, soft shale coated with yellowish-brown silt or clay. Shale bedrock is at a depth of 6 to 24 inches.

In places small areas of this soil are capped with sediments of fine sandy loam from the Coastal Plain. This layer of sediments ranges from a few inches to several feet in thickness. The areas occupy the upper part of slopes and are adjacent to sandy soils of the Coastal Plain, which are on the narrow ridgetops. Outcrops of shale and sandstone are on some hillsides.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is very rapid. Water enters this soil at a moderate to slow rate and moves at a moderate to rapid rate through the profile. The available moisture capacity is very low; plants may be damaged by lack of water during even a short period of drought.

This soil is not suited to cultivated crops, because it is steep, the root zone is shallow, and the hazard of erosion is severe or very severe. Its best use is for trees (fig. 7). (Capability unit VIIe–49; woodland suitability group 12; wildlife group 4)

Montevallo shaly silt loam, 15 to 50 percent slopes, severely eroded (MoE3).—This soil has a surface layer of brown shaly silt loam that is 2 inches thick. Below the surface layer is 10 inches of strong-brown and yellowish-brown silty clay that contains 50 percent fragments of shale. Bedrock of level-bedded shale is at a depth of 6 to 14 inches. In most places many fragments of shale and standstone are on the surface. Shallow and deep gullies are common in most old fields. Mapped with this soil are a few small areas where shale bedrock is exposed.

This Montevallo soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is very rapid. Water enters this soil slowly and moves at a moderate to rapid rate through the profile. The available moisture capacity is very low; plants may be damaged by lack of water during even a short period of drought.

This soil is not suited to cultivated crops, because it is steep, its root zone is shallow, and the hazard of erosion is very severe. It is probably best suited to trees. (Capability unit VIIe–49; woodland suitability group 12; wildlife group 4)

Figure 7.—**A 30-year-old stand of Virginia pine on Montevallo shaly silt loam, 15 to 50 percent slopes. The site index for this soil ranges from 53 to 62.**

Myatt Series

Soils of the Myatt series are deep, poorly drained, and nearly level. They are on low stream terraces and formed in general alluvium that washed from soils of the Coastal Plain uplands. The following describes a representative profile:

0 to 5 inches, gray silt loam; yellowish-brown mottles.
5 to 32 inches, gray fine sandy clay loam; many brown mottles.
32 to 50 inches, mottled gray and strong-brown loam.

The texture of the subsoil ranges from sandy loam to silty clay loam. In most places the subsoil is prominently mottled with gray and brown.

The Myatt soils are very strongly acid to extremely acid. Their natural fertility and content of organic matter are low, but crops grown on them make fair response to lime and fertilizer. Water enters these soils at a moderate to slow rate and moves slowly through the profile. The root zone is shallow, and the available moisture capacity is moderate. These soils have a seasonally high water table; water stands on the surface for long periods during wet seasons.

These soils are widely distributed throughout the western two-thirds of the county, but their total acreage is fairly small. The largest areas are on bottom lands of Luxapallila Creek and the Sipsey River. These soils are subject to occasional flooding. They are too wet to be used for cultivated crops unless they are drained, but they are well suited to pasture or trees. About one-fourth of the acreage has been cleared and is used mainly for pasture.

Myatt silt loam (My).—This is the only Myatt soil mapped in the county. It has a plow layer of gray silt loam that is 5 inches thick and is mottled with brown. The plow layer overlies 28 inches of light-gray fine sandy clay loam that has many brown mottles. The sandy clay loam is underlain by 2 feet of mottled gray and strong-brown loam.

Along some of the larger tributaries of the Luxapallila Creek, and near that creek, the surface layer of this soil is 8 to 16 inches thick. It consists of well-drained, brown to dark-brown silt loam that has been recently deposited. In those areas this soil is better drained than typical. As a result, it is more productive than the areas that are poorly drained, and it is suited to a wider range of crops. Mapped with this soil are areas of Stough, Prentiss, and Bibb soils.

This Myatt soil is very strongly acid to extremely acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to very slow. Infiltration is moderate to slow, and permeability is slow. The available moisture capacity is moderate.

This soil is difficult to work and can be tilled only within a narrow range of moisture content. It forms clods if worked too wet or too dry. This soil is suited to only a few crops because of its poor drainage, the high water table, the long periods when water stands on the surface, and its susceptibility to flooding. Unless it is artificially drained, this soil is very poorly suited to cultivated crops, but it is suited to pasture or trees. (Capability unit IVw–11; woodland suitability group 2; wildlife group 7)

Ochlockonee Series

In the Ochlockonee series are deep, well-drained soils that are nearly level. The soils are on flood plains. They formed in alluvial material washed mainly from the Coastal Plain uplands. Lenses of sand occur throughout the profile. The following describes a representative profile:

0 to 11 inches, very dark grayish-brown loam.
11 to 36 inches, brown to dark-brown fine sandy loam.
36 to 62 inches, brown to dark-brown silt loam.

Below the surface layer the color of the soil material ranges from brown to dark yellowish brown, and the texture ranges from sandy loam to silt loam.

These soils are strongly acid to very strongly acid. Their content of organic matter is low, and their natural fertility is low to moderate. Crops grown on these soils make good response to lime and fertilizer.

Water enters these soils readily and moves at a moderate to rapid rate through the profile. The root zone is deep. The available moisture capacity ranges from low to high. These soils are subject to occasional flooding. Flooding occurs mainly in winter and in spring.

The Ochlockonee soils are widely distributed throughout the county, but their total acreage is fairly small. Most of the areas have been cleared and are used for cultivated crops or pasture. Corn is the chief cultivated crop. These soils are well suited to intensive use. Erosion is not a hazard, except in those areas where floods cause scouring.

Ochlockonee loam (Oc).—This soil has a plow layer of very dark grayish-brown loam that is 8 inches thick. The surface layer overlies 28 inches of brown to dark-brown fine sandy loam. The fine sandy loam, in turn, is underlain by 3 feet of brown to dark-brown silt loam. In places lenses of sand are in the profile. In some areas loamy sand is below a depth of 24 inches. Pebbles of chert and quartz are on the surface and in the profile in places. Mapped with this soil are small areas of Iuka and Mantachie soils.

This Ochlockonee soil is strongly acid to very strongly acid. Its content of organic matter is low, and its natural fertility is moderate. Surface runoff is slow or very slow. This soil is subject to occasional flooding, mainly in winter and in spring. The floodwaters usually recede after 1 to 3 days. Infiltration and permeability are moderate, and the available moisture capacity is high.

This soil is easy to work and can be cultivated within a fairly wide range of moisture content without clodding or crusting. It is suited to a large number of crops and can be cropped intensively. This is one of the most productive soils in the county. Erosion is not a problem, except in those areas where floods cause scouring. (Capability unit IIw–12; woodland suitability group 2; wildlife group 5)

Ochlockonee sandy loam (Od).—This soil has a surface layer of dark grayish-brown sandy loam that is about 12 inches thick. Below the surface layer is 20 inches of dark yellowish-brown sandy loam. The underlying material is brown to dark-brown mottled sandy loam or loam. Faint or distinct mottles are below a depth of 30 inches in some areas. Mapped with this soil are small areas where the texture is loamy sand throughout the profile.

This Ochlockonee soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to very slow. Infiltration is moderate to rapid, and permeability is rapid. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is easy to work and can be cultivated within a wide range of moisture content. It is suited to a fairly large number of different crops, but it is subject to flooding. Yields are usually fairly low because the soil holds only a small amount of water and available plant nutrients. Erosion is not a problem, except in those areas where floods cause scouring. (Capability unit IIw–12; woodland suitability group 2; wildlife group 5)

Ora Series

In the Ora series are deep, moderately well drained to well drained soils that have a fragipan. The soils are on gently sloping or sloping ridgetops and on moderately steep side slopes of the Coastal Plain uplands. The following describes a representative profile:

0 to 5 inches, brown to dark-brown fine sandy loam.
5 to 22 inches, red loam.
22 to 42 inches, yellowish-red, compact and brittle fine sandy loam mottled with red and brown.
42 to 72 inches, red sandy clay loam that has a few brown mottles.

The subsoil ranges from strong brown to red in color and from fine sandy loam to clay loam in texture. Depth to the fragipan ranges from 20 to 36 inches.

These soils are very strongly acid. Their natural fertility and content of organic matter are low, but crops grown on them make good response to lime and fertilizer. Water enters these soils readily. It moves at a moderate rate through the profile to the fragipan, and then it moves more slowly. The root zone is moderately deep, and the available moisture capacity is low.

The Ora soils are widely distributed throughout the western two-thirds of the county, and their total acreage is fairly large. Most of the areas are used for crops or pasture. These soils are suited to all of the crops grown locally, but erosion is a hazard if cultivated crops are grown.

Ora fine sandy loam, 2 to 6 percent slopes, eroded (OfB2).—This soil has a plow layer of brown fine sandy loam. The plow layer is 5 inches thick and overlies 18 inches of red loam. Below the red loam is a compact and brittle fragipan of yellowish-red fine sandy loam mottled with red and brown. In some areas pebbles of quartz and chert are on the surface and in the profile. In places the plow layer is yellowish-red or red sandy clay loam. A few rills and shallow gullies are in some fields.

Mapped with this soil are small areas where the surface layer is 8 to 12 inches thick. Also mapped with it are small areas of Ruston, Shubuta, Greenville, and Savannah soils.

This Ora soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to medium. Water enters this soil readily. It moves at a moderate rate through the profile to the fragipan, and then it moves more slowly. The available moisture capacity is low.

This soil is easy to work and can be tilled within a fairly wide range of moisture content without clodding or crusting. It is suited to a number of different crops and is productive under good management. Erosion is a slight to moderate hazard, however, if cultivated crops are grown. (Capability unit IIe–15; woodland suitability group 1; wildlife group 3)

Ora fine sandy loam, 6 to 10 percent slopes (OfC).—This soil has a surface layer of brown fine sandy loam that is 10 inches thick and overlies 15 inches of yellowish-red, friable loam. The loam is underlain by a fragipan of fine sandy loam that has mottles of strong brown and pale brown. The fragipan is compact in place, but brittle in areas that have been disturbed. In places pebbles of chert and quartz that are ¼ to ¾ inch in diameter are common on the surface.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Water enters this soil readily. It moves at a moderate rate through the profile to the fragipan, and then it moves more slowly. The available moisture capacity is low.

This soil is easy to work and can be tilled within a fairly wide range of moisture content without clodding or crusting. It is suited to a number of different crops, and under good management it is productive. Erosion is a moderate hazard, however, if cultivated crops are grown. (Capability unit IIIe–15; woodland suitability group 1; wildlife group 3)

Ora fine sandy loam, 6 to 10 percent slopes, eroded (OfC2).—The plow layer of this soil is brown fine sandy loam that is 6 inches thick and overlies 18 inches of yellowish-red, friable fine sandy clay loam. The clay loam is underlain by a fragipan of fine sandy loam that is mottled with strong brown and pale brown. The fragipan is compact in place, but brittle in areas that have been disturbed. In places pebbles of chert and quartz that are ¼ to ¾ inch in diameter are common on the surface. Many fields have a few rills and shallow gullies.

Mapped with this soil are small areas where the plow layer is yellowish-red or red sandy clay loam. Also, small areas where the soil does not contain a fragipan were included in mapping.

This Ora soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Water enters this soil readily. It moves at a moderate rate through the profile to the fragipan, and then it moves more slowly. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is easy to work and can be tilled within a fairly wide range of moisture content without clodding or crusting. Under good management it is productive. The soil is suited to a number of different crops, but erosion is a moderate hazard if cultivated crops are grown. (Capability unit IIIe–15; woodland suitability group 1; wildlife group 3)

Ora sandy clay loam, 6 to 10 percent slopes, severely eroded (OrC3).—In most places this soil has a surface layer of strong-brown, slightly sticky sandy clay loam. The surface layer is 3 inches thick and overlies 15 inches of yellowish-red clay loam. Below the clay loam is a fragipan of fine sandy loam that is mottled with gray, strong brown, and red. The fragipan is compact in place but

brittle in areas that have been disturbed. Small patches are common where the plow layer is red sandy clay loam. In places many pebbles of chert and quartz that are ¼ to ¾ inch in diameter are on the surface. Most fields have shallow rills and gullies. Mapped with this soil are small areas where the slopes are more than 10 percent.

This Ora soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Water enters this soil slowly and moves at a moderate rate through the profile to the fragipan. Then it moves more slowly. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is difficult to work and clods if it is tilled when too wet or too dry. When it dries, a crust forms that may cause the stand of crops to be poor. Occasionally, it is safe to cultivate this soil. This soil is poorly suited to cultivated crops, however, because of the moderate to severe hazard of erosion and the shallow root zone. (Capability unit IVe–111; woodland suitability group 1; wildlife group 8)

Ora fine sandy loam, 10 to 15 percent slopes, eroded (OfD2).—This soil has a plow layer of brown fine sandy loam that is 5 inches thick. Below the plow layer is 20 inches of yellowish-red, friable fine sandy clay loam. A compact and brittle fragipan of mottled yellowish-red, strong-brown, and yellowish-brown fine sandy loam underlies the fine sandy clay loam at a depth of 20 to 36 inches. In places many pebbles of chert and quartz are on the surface and in the profile. A few rills and shallow gullies are in many fields. In a few small areas, the surface layer is 8 to 12 inches thick.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Water enters this soil readily. It moves at a moderate rate through the profile to the fragipan, and then it moves more slowly. The available moisture capacity is low.

This soil is easy to work and can be tilled within a fairly wide range of moisture content. Occasionally, it can be used safely for crops that require tillage. This soil is poorly suited to cultivated crops, however, because of the rapid runoff and moderate to severe hazard of erosion. (Capability unit IVe–11; woodland suitability group 1; wildlife group 4)

Pheba Series

In the Pheba series are deep, somewhat poorly drained, nearly level soils that have a fragipan. The soils are on flats or in slight depressions of the Coastal Plain uplands. The following describes a representative profile:

0 to 10 inches, light olive-brown loam that has brown mottles.
10 to 18 inches, yellowish-brown loam that has brown and gray mottles.
18 to 30 inches, mottled brown and gray, compact and brittle loam.
30 to 54 inches, gray clay loam mottled with brown.

The color of the subsoil ranges from pale brown to olive brown mottled with gray, and the texture of the subsoil ranges from fine sandy loam to sandy clay loam. Depth to the fragipan ranges from 14 to 24 inches.

These soils are strongly acid to very strongly acid. Their natural fertility and content of organic matter are low, but crops grown on these soils make fair response to lime and fertilizer. Water enters the soils readily. It moves at a moderate rate through the profile to the fragipan, and then it moves slowly. The water table is seasonally high, and the subsoil is waterlogged during wet seasons. The root zone is shallow, and the available moisture capacity is low.

The Pheba soils are widely distributed throughout the western two-thirds of the county, but their total acreage is small. About one-third of the acreage has been cleared. The cleared areas are used mainly for pasture, but cultivated crops are grown in some areas. These soils are not well suited to cultivated crops, however, because of their imperfect drainage and the seasonally high water table.

Pheba loam (Pb).—This is the only Pheba soil mapped in this county. It has a surface layer of very dark gray loam that is 2 inches thick. The surface layer overlies 8 inches of light olive-brown loam that is mottled with brown and gray. Below the light olive-brown loam is 8 inches of light yellowish-brown loam that is mottled with brown and gray and overlies a fragipan. The fragipan is mottled brown and gray loam and is compact and brittle. In places a few pebbles of chert and quartz are on the surface and in the profile. Small areas of Savannah and Mashulaville soils are mapped with this soil.

This Pheba soil is strongly acid to very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to very slow. Water enters this soil readily. It moves at a moderate rate through the profile to the fragipan, and then it moves slowly. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought, mainly late in summer and in fall.

This soil is easy to work, but it can be tilled only within a narrow range of moisture content. It clods if worked too wet or too dry. When it dries, a crust forms. Sometimes, the stand of crops is poor because of the crust. This soil has a narrow range of suitability for crops. It is poorly suited to cultivated crops because of the imperfect drainage and the seasonally high water table. It is suited to pasture, however, and corn makes fair yields in some years. In places there is a slight hazard of erosion. (Capability unit IIIw–12; woodland suitability group 5; wildlife group 6)

Philo Series

In the Philo series are deep, moderately well drained, silty soils that are nearly level. The soils are at the heads of and along small drainageways on the Southern Appalachian Plateau. The following describes a representative profile:

0 to 25 inches, dark-brown silt loam.
25 to 40 inches, dark-brown loam that has a few gray mottles.

The color of the surface layer ranges from brown to dark yellowish brown, and the texture ranges from loam to silt loam. The color of the underlying material ranges from brown to very dark brown, and the texture ranges from loam to silty clay loam.

These soils are very strongly acid. Their natural fertility is moderate, and their content of organic matter is low. Crops grown on them make good response to lime and fertilizer. Water enters these soils readily and moves

at a moderate rate through the profile. These soils have a deep root zone, and their available moisture capacity is high. Normally, they are not flooded, but seepage water may be a problem during wet seasons. Also, the lower part of the subsoil is waterlogged during wet seasons.

The Philo soils are widely distributed throughout the eastern one-third of the county, but their total acreage is small. Formerly, nearly all of the acreage was cultivated. Now, only about half is used for cultivated crops, and the rest is idle or is in pine forest. These are among the most productive soils in the county. They are suited to all of the crops grown locally.

Philo soils, local alluvium (Ph).—These are the only Philo soils mapped in the county, and they are mapped as a single unit. They have a dark-brown plow layer that is 5 inches thick. The texture of the plow layer ranges from loam to silt loam. Below is 20 inches of dark-brown silt loam that is underlain by dark-brown and gray loam. In places beds of shale and fragments of sandstone are at a depth below 18 to 24 inches. Fragments of shale and sandstone ¼ to ¾ inch in diameter are common in the plow layer and throughout the profile. Mapped with these soils are small areas of Stendal soils.

These soils are strongly acid. Their natural fertility is moderate, and their content of organic matter is low. Surface runoff is slow to very slow. Water stands on the surface for short periods during wet seasons. Infiltration and permeability are moderate, and the available moisture capacity is high.

These soils are easy to work and can be tilled within a fairly wide range of moisture content without clodding or crusting. They are well suited to intensive use. The soils are suited to a number of different crops and are highly productive under good management. Erosion is not a hazard. (Capability unit IIw–11; woodland suitability group 7; wildlife group 5)

Prentiss Series

In the Prentiss series are deep, moderately well drained soils that are nearly level and gently sloping. These soils have a fragipan in the lower part of the subsoil. They are on stream terraces of the Coastal Plain. The following describes a representative profile:

0 to 6 inches, dark grayish-brown fine sandy loam.
6 to 22 inches, yellowish-brown fine sandy clay loam.
22 to 42 inches, yellowish-brown, compact and brittle clay loam that has many gray mottles.

The color of the subsoil ranges from brownish yellow to dark yellowish brown, and the texture ranges from fine sandy loam to sandy clay loam. Depth to the fragipan ranges from 20 to 30 inches.

These soils are strongly acid to very strongly acid. Their natural fertility and content of organic matter are low, but crops grown on these soils make good response to lime and fertilizer. Water enters these soils readily. It moves at a moderate rate through the profile to the fragipan, and then it moves slowly. Consequently, the subsoil is waterlogged during wet seasons. The root zone is shallow to moderately deep, and the available moisture capacity is low.

These soils are in the western two-thirds of the county along the Sipsey River, Luxapallila Creek, and along other large creeks. Their total acreage is fairly large. Most of the areas are used for cultivated crops or pasture. These soils are suited to most of the crops grown locally.

Prentiss fine sandy loam, 0 to 2 percent slopes (PrA).—This soil has a plow layer of dark grayish-brown fine sandy loam that is 6 inches thick. Below the surface layer is 16 inches of yellowish-brown fine sandy clay loam. The clay loam is underlain by a compact and brittle fragipan of yellowish-brown clay loam that is mottled with pale brown and gray. Depth to the fragipan ranges from 20 to 30 inches.

Mapped with this soil are small areas that have a subsoil of yellowish-red sandy clay loam. Also included are small areas of Stough soils.

This Prentiss soil is strongly acid to very strongly acid. Its natural fertility and content of organic matter are low. Surface runoff is slow. Water enters this soil readily. It moves at a moderate rate through the profile to the fragipan, and then it moves slowly. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is easy to work, but it clods if worked too wet or too dry. When it dries, a crust forms that sometimes causes the stand of crops to be poor. This soil warms up slowly in spring. It is not suited to deep-rooted crops, because the fragipan restricts the penetration of water and roots. The subsoil is waterlogged during wet seasons, and as a result, some plants tend to drown out. Erosion is only a slight hazard if cultivated crops are grown. Under good management this soil is fairly productive. (Capability unit IIw–15; woodland suitability group 5; wildlife group 3)

Prentiss fine sandy loam, 2 to 6 percent slopes, eroded (PrB2).—This soil has a plow layer of brown fine sandy loam that is 6 inches thick. Below the surface layer is 18 inches of yellowish-brown fine sandy clay loam. The clay loam is underlain by a fragipan of fine sandy loam that has gray and yellowish-brown mottles. The fragipan is compact in place, but brittle in areas that have been disturbed. A few rills and shallow gullies are in most fields.

Mapped with this soil are small areas where the plow layer is yellowish-brown fine sandy clay loam. Also small areas that have a surface layer of fine sandy loam, 8 to 10 inches thick, were included in the mapping.

This Prentiss soil is strongly acid to very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to medium. Infiltration is moderate; permeability is moderate to the fragipan, but it is slow in the fragipan. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is easy to work, but it forms clods if tilled too wet or too dry. When it dries, a crust forms that sometimes causes the stand of crops to be poor. This soil is suited to a number of different crops, and it is productive under good management. Further erosion is a slight to moderate hazard, however, if cultivated crops are grown. (Capability unit IIe–15; woodland suitability group 5; wildlife group 3)

Rock Land (Rd)

This land type consists of rough, stony areas where sandstone outcrops and loose fragments of sandstone and shale are on the surface. The outcrops of sandstone and the

loose fragments of sandstone and shale cover from 25 to 75 percent of the surface, but in most places they cover about 50 percent. This land type is at the top of slopes and covers about the upper one-fourth of the slope. It also occurs as escarpments or ledges. The slopes range from 6 to 50 percent, but the dominant slopes are greater than 15 percent. On the lower part of the slopes are areas of Montevallo soils that adjoin this land type. Some areas of Montevallo soils were mapped with this land type.

This land type is strongly acid to very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid to very rapid. Infiltration is rapid, and permeability is rapid to very rapid. The available moisture capacity is very low.

Rock land is not suited to cultivated crops or pasture, because of its high content of rock, its shallow root zone, and its low available moisture capacity. Its best use is for forest. Trees grow fairly well on the areas of soil material between rock outcrops and stones. (Capability unit VIIe–49; woodland suitability group 13; wildlife group 4)

Ruston Series

In the Ruston series are deep, well-drained, nearly level to steep soils of the Coastal Plain. The soils that are gently sloping and sloping are mainly on ridgetops, and the ones that are moderately steep are on side slopes. A small acreage where these soils are nearly level is on ridgetops, however, and a small acreage where they are steep is on hillsides. The following describes a representative profile:

0 to 6 inches, brown, very friable fine sandy loam.
6 to 29 inches, yellowish-red, friable fine sandy clay loam.
29 to 49 inches, yellowish-red, very friable fine sandy loam.

The texture of the subsoil ranges from sandy loam to light clay loam. The color ranges from strong brown to red.

These soils are very strongly acid. Their natural fertility is low, but crops grown on them make good response to fertilizer and lime. Water enters these soils readily and moves at a moderate to rapid rate through the profile. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

These soils are widely distributed throughout the western two-thirds of the county, and their total acreage is large. Formerly, nearly all of the acreage was cultivated. Now, only about one-fifth is used for cultivated crops (fig. 8), and the rest is in forests of pine. These soils are suited to all of the crops grown locally, but erosion is a hazard if cultivated crops are grown. Deep gullies that undercut and cave are a hazard on some areas of these soils.

Ruston fine sandy loam, 0 to 2 percent slopes (RfA).—This soil has a surface layer of dark yellowish-brown fine sandy loam that is 6 inches thick. Below the surface layer is 24 or more inches of yellowish-red, friable fine sandy clay loam. The underlying material is yellowish-red sandy loam or loamy sand that is several feet thick.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow or very slow. Infiltration and permeability are moderate to rapid. The available moisture capacity is low.

This is among the most productive soils of uplands in the county. It is easy to work and can be tilled within a wide range of moisture content without clodding or crusting. It is well suited to all of the crops grown locally, and yields are high under good management. There is little or no hazard of erosion. (Capability unit I–42; woodland suitability group 3; wildlife group 1)

Figure 8.—**Cultivated crops are growing on this area of Ruston soils on a sloping ridgetop. The steeper slopes are in mixed forests.**

Ruston fine sandy loam, 2 to 6 percent slopes (RfB).—This soil has a surface layer of dark grayish-brown, very friable fine sandy loam that is 4 inches thick. Below the surface layer is 10 inches of yellowish-brown fine sandy loam. The subsoil is yellowish-red sandy clay loam and is 20 inches thick. About 12 inches of yellowish-red fine sandy loam underlies the subsoil, and below that is strong-brown sandy loam or loamy sand. In places pebbles of chert and quartz are on the surface.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow or medium. Infiltration and permeability are moderate to rapid. The available moisture capacity is low.

This soil is easy to work and can be tilled within a wide range of moisture content without clodding or crusting. It is suited to a number of different crops, but erosion is a slight to moderate hazard if cultivated crops are grown. (Capability unit IIe–12; woodland suitability group 3; wildlife group 1)

Ruston fine sandy loam, 2 to 6 percent slopes, eroded (RfB2).—The plow layer of this soil is brown fine sandy loam that is 6 inches thick. It overlies yellowish-red, friable fine sandy clay loam that is about 30 inches thick. The underlying material is yellowish-red fine sandy loam or loamy fine sand. A few shallow rills and gullies are in many fields. In places a few pebbles of chert and quartz are on the surface.

Mapped with this soil are small areas where the plow layer is yellowish-red sandy clay loam. In these included areas the subsoil is dark red.

This Ruston soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow or medium. Water enters this soil readily and moves at a moderate to rapid rate through the profile. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of dry weather.

This soil is easy to work and can be tilled within a wide range of moisture content without clodding or crusting. It is well suited to all of the crops grown locally, and

yields are high under good management. Further erosion is a slight to moderate hazard, however, if cultivated crops are grown. (Capability unit IIe–12; woodland suitability group 3; wildlife group 1)

Ruston fine sandy loam, 6 to 10 percent slopes (RfC).—The surface layer of this soil is dark grayish-brown fine sandy loam that is 4 inches thick. Below the surface layer is 6 inches of light yellowish-brown fine sandy loam. The subsoil is yellowish-red, friable fine sandy clay loam that is 25 inches thick. The sandy clay loam is underlain by several feet of sandy loam or loamy sand. Mapped with this soil are a few small areas where the combined layers of fine sandy loam are 18 to 30 inches thick.

This Ruston soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Infiltration and permeability are moderate to rapid. The available moisture capacity is low.

This soil is easy to work and can be tilled within a wide range of moisture content without clodding or crusting. It is suited to a number of different crops, but erosion is a moderate hazard if cultivated crops are grown. (Capability unit IIIe–12; woodland suitability group 3; wildlife group 1)

Ruston fine sandy loam, 6 to 10 percent slopes, eroded (RfC2).—This soil has a surface layer of brown fine sandy loam that is 6 inches thick. Below the surface layer is 24 inches of yellowish-red fine sandy clay loam. The subsoil is yellowish-red fine sandy loam that is 15 inches thick. The underlying material is yellowish-red sandy loam or loamy sand. A few rills and shallow gullies are in many fields.

Mapped with this soil are small areas where the plow layer is yellowish-red sandy clay loam and small areas where the subsoil is red to dark-red sandy clay loam. Also included are small areas of Ora, Shubuta, Savannah, and Greenville soils.

This Ruston soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Water enters this soil readily and moves at a moderate to rapid rate through the profile. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is easy to work and can be tilled within a range of moisture content without clodding or crusting. It is suited to all of the crops grown locally and is productive under good management. Further erosion is a moderate hazard, however, if cultivated crops are grown. (Capability unit IIIe–12; woodland suitability group 3; wildlife group 1)

Ruston sandy clay loam, 6 to 10 percent slopes, severely eroded (RsC3).—This soil generally has a plow layer of brown or dark-brown, slightly sticky sandy clay loam that is 4 inches thick. Below the plow layer is 20 inches of yellowish-red, friable sandy clay loam. The sandy clay loam is underlain by 10 inches of yellowish-red fine sandy loam. Below is several feet of sandy loam or loamy sand. In many places the plow layer is reddish brown or yellowish red instead of brown or dark brown. A few shallow and deep gullies are common throughout much of the acreage. In most places a few pebbles of chert and quartz are on the surface.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Infiltration is moderate to slow, and permeability is moderate to rapid. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is difficult to work, and it forms clods if tilled too wet or too dry. When it dries, a crust forms that sometimes causes the stand of crops to be poor. This soil is suited to a fairly large number of different crops. The hazard of further erosion is moderate to severe, however, if cultivated crops are grown. (Capability unit IVe–111; woodland suitability group 3; wildlife group 8)

Ruston fine sandy loam, 10 to 15 percent slopes (RfD).—This soil has a surface layer of dark grayish-brown fine sandy loam that is 5 inches thick. Below the surface layer is 10 inches of yellowish-brown fine sandy loam. The subsoil is yellowish-red, friable light sandy clay loam that is 20 inches thick. The sandy clay loam is underlain by several feet of sandy loam or loamy sand.

Mapped with this soil are small areas where the surface layer is loam or fine sandy loam and the subsoil is red to dark-red clay loam, sandy clay, or clay. Also included are a few small areas where the surface layer is 18 to 30 inches thick.

This Ruston soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Infiltration and permeability are moderate to rapid. The available moisture capacity is low.

This soil is easy to work and can be cultivated within a wide range of moisture content without clodding or crusting. It is suited to a number of different crops. It is poorly suited to cultivated crops, however, because of its moderately steep slopes and the moderate to severe hazard of erosion. (Capability unit IVe–11; woodland suitability group 3; wildlife group 4)

Ruston fine sandy loam, 10 to 15 percent slopes, eroded (RfD2).—In most places the surface layer of this soil is grayish-brown fine sandy loam that is 6 inches thick. It overlies yellowish-red, friable sandy clay that is 24 inches thick. The underlying material is mottled strong-brown and pale-brown sandy loam. A few shallow rills and gullies are in most fields. In places the plow layer is yellowish-red sandy clay loam. In most places a few pebbles of chert and quartz are on the surface.

Mapped with this soil are small areas where the surface layer is brown to dark reddish-brown fine sandy loam or loam. The subsoil in the included areas is red to dark-red sandy clay loam, sandy clay, or clay.

This Ruston soil is very strongly acid, and its content of organic matter and natural fertility are low. Surface runoff is rapid. Water enters this soil readily and moves at a moderate to rapid rate through the profile. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is easy to work and can be tilled within a wide range of moisture content without clodding or crusting. It is suited to all of the crops grown locally, but further erosion is a moderate to severe hazard if cultivated crops are grown. (Capability unit IVe–11; woodland suitability group 3; wildlife group 4)

Ruston sandy clay loam, 10 to 15 percent slopes, severely eroded (RsD3).—This soil generally has a plow layer of dark yellowish-brown, slightly sticky sandy clay

loam that is 3 inches thick. Below the surface layer is 20 inches of yellowish-red, friable sandy clay loam. The sandy clay loam is underlain by 8 inches of yellowish-red fine sandy loam. Below is sandy loam or loamy sand. In many places the surface layer is reddish brown or yellowish red instead of dark yellowish brown. In places there are a few shallow and deep gullies. Mapped with this soil are small areas where the slope is greater than 15 percent.

This Ruston soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid to very rapid. Infiltration is moderate to slow, and permeability is moderate to rapid. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is difficult to work, and clods form if it is tilled too wet or too dry. When the soil dries, a crust forms that sometimes causes the stand of crops to be poor. This soil is not suited to cultivated crops, because of its moderately steep slopes and the severe hazard of further erosion. (Capability unit VIe–111; woodland suitability group 3; wildlife group 8)

Ruston fine sandy loam, 15 to 25 percent slopes (RfE).—This soil has a surface layer of dark grayish-brown fine sandy loam that is 4 inches thick. The surface layer overlies 10 inches of yellowish-brown fine sandy loam. Just below is 20 inches of yellowish-red, friable fine sandy loam. The underlying material is brown to dark-brown sandy loam or loamy sand. In about half of the acreage, the surface layer is 4 to 8 inches thick. Pebbles of chert and quartz are on the surface and throughout the profile in most places. In most old fields, there are a few shallow rills and gullies. Mapped with this soil are a few small areas where the surface layer is 18 to 30 inches thick.

This Ruston soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid to very rapid. Infiltration is moderate to rapid, and permeability is rapid. The available moisture capacity is low.

Because of its steep slopes and the severe hazard of erosion, this soil is not suited to cultivated crops. It is suited to permanent pasture, hay, or trees. (Capability unit VIe–19; woodland suitability group 3; wildlife group 4)

Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes (RxC).—The soils in this complex are on narrow, sloping ridgetops. They are widely distributed throughout the western two-thirds of the county.

Ruston soils occupy about 50 percent of the acreage. They have a surface layer of yellowish-brown fine sandy loam that is 10 inches thick and overlies 24 inches of yellowish-red sandy clay loam. The underlying material is yellowish-red sandy loam.

Cuthbert soils occupy about 25 percent of the acreage. They have a surface layer of yellowish-brown fine sandy loam that is 10 inches thick and overlies 10 inches of yellowish-red silty clay. Below the yellowish-red silty clay is gray silty clay that is mottled with red and brown.

Shubuta soils occupy about 25 percent of the acreage. They have a surface layer of yellowish-brown fine sandy loam that is 10 inches thick and overlies 10 inches of red silty clay. Below is yellowish-red silty clay that is mottled with gray and brown.

In places many fragments of iron-crust rock are on the surface. These fragments are about 1 inch thick and are 1 to 10 inches in diameter. In most places a layer of iron-crust rock underlies the subsoil of the Cuthbert (fig. 9) and Shubuta soils.

Figure 9.—**Road cut in an area of Cuthbert soil, showing irregular, broken fragments of iron-crust rock.**

Mapped with the soils of this complex are small areas in which the texture is loamy sand to a depth of 2 to 6 feet. Also included are small areas of Ora, Guin, and Boswell soils.

The soils of this complex are very strongly acid, and their natural fertility and content of organic matter are low. Surface runoff is medium to rapid, and infiltration is moderate to rapid. Permeability is also moderate to rapid in the Ruston soils, but it is slow to moderate in the Cuthbert and Shubuta soils. The available moisture capacity is low; these soils are droughty during even short, dry periods.

The soils are fairly easy to work, except in areas where the fragments of iron-crust rock are on the surface. They are suited to only a limited number of different crops, however, because they are shallow over firm silty clay. In most of this complex, the soils are well suited to permanent pasture, hay, or trees. Erosion is a moderate to severe hazard if cultivated crops are grown. (The Ruston soil of this complex is in capability unit IIIe–12, the Cuthbert soil is in capability unit VIe–19, and the Shubuta soil is in capability unit IIIe–44; woodland suitability group 4; wildlife group 2)

Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes, eroded (RxC2).—The soils in this complex are on narrow, sloping ridgetops. They are widely distributed throughout the western two-thirds of the county.

Ruston soils occupy about 50 percent of the acreage. They have a surface layer of yellowish-brown fine sandy loam that is 6 inches thick. The surface layer overlies 20 inches of yellowish-red fine sandy clay loam. Below is strong-brown fine sandy loam.

Cuthbert soils occupy about 25 percent of the acreage. They have a surface layer of pale-brown fine sandy loam that is 5 inches thick. The surface layer overlies 10 inches of yellowish-red sandy clay. The sandy clay is underlain by mottled silty clay that is gray, strong brown, and red. Shubuta soils occupy about 25 percent of the acreage. They have a surface layer of pale-brown fine sandy loam that is 5 inches thick. Their surface layer overlies 10 inches of red silty clay. Below the red silty clay is yellowish-red silty clay that is mottled with brown and gray.

In places many fragments of iron-crust rock are on the surface. These fragments are about 1 inch thick and are 1 to 10 inches in diameter. In most areas of Cuthbert and Shubuta soils, a layer of iron-crust rock underlies the subsoil. There are a few shallow gullies and remnants of old terraces throughout much of the acreage. In places in this complex, the surface layer is yellowish-red sandy clay loam or silty clay loam. Mapped with these soils are small areas of Ora, Boswell, and Guin soils.

The soils of this complex are very strongly acid, and their natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Infiltration is moderate to rapid. Permeability is moderate to rapid in the Ruston soils, but it is slow to moderate in the Cuthbert and Shubuta soils. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

The Cuthbert soils of this complex are hard to work, but the Ruston soils are fairly easy to work, except in those areas where fragments of iron-crust rock are on the surface. The Cuthbert and Shubuta soils are suited to only a limited number of different crops, however, because they are shallow over firm silty clay. The suitability of these soils for cultivated crops is marginal, but occasionally cultivated crops can be grown safely. Erosion is a moderate hazard, and yields are generally low. In most places these soils are well suited to permanent pasture, hay, or trees. (The Ruston soil of this complex is in capability unit IIIe–12, the Cuthbert soil is in capability unit VIe–19, and the Shubuta soil is in capability unit IIIe–44; woodland suitability group 4; wildlife group 2)

Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes (RxD).—The soils in this complex are on moderately steep side slopes and foot slopes. They are widely distributed throughout the western two-thirds of the county.

Ruston soils occupy about 50 percent of the acreage. They have a surface layer of yellowish-brown fine sandy loam that is 12 inches thick. The surface layer overlies 24 inches of yellowish-red sandy clay loam. The sandy clay loam is underlain by yellowish-red fine sandy loam.

Cuthbert soils occupy 30 percent of the acreage. They have a surface layer of brownish-yellow fine sandy loam that is 10 inches thick. The surface layer overlies 10 inches of strong-brown sandy clay. Below is gray sandy clay mottled with strong brown.

Shubuta soils occupy 20 percent of the acreage. They have a surface layer of light yellowish-brown fine sandy loam that is 10 inches thick. The surface layer overlies 10 inches of yellowish-red silty clay. Below is yellowish-red silty clay that is mottled with gray and brown.

In places many fragments of iron-crust rock are on the surface. These fragments are about 1 inch thick and are 1 to 10 inches in diameter. In most places a layer of iron-crust rock underlies the subsoil of the Cuthbert and Shubuta soils.

Mapped with the soils of this complex are small areas where loamy sand or sandy loam extends to a depth of 2 to 6 feet. Also included are small areas of Ora, Guin, and Boswell soils.

The soils of this complex are very strongly acid, and their natural fertility and content of organic matter are low. Surface runoff is rapid. Water enters these soils readily; it moves at a moderate to rapid rate through the Ruston soil and at a slow to moderate rate through the Cuthbert and Shubuta soils. The available moisture capacity is low. These soils may be droughty during even short dry periods.

The soils of this complex are not suited to cultivated crops, because they are moderately steep and shallow and in places are underlain by tough, plastic clay. Also, the hazard of erosion is severe. These soils are well suited to trees, permanent pasture, and hay. (The Ruston soil of this complex is in capability unit IVe–11, the Cuthbert soil is in capability unit VIe–19, and the Shubuta soil is in capability unit IVe–19. All of these soils are in woodland suitability group 4 and wildlife group 4)

Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes, eroded (RxD2).—The soils of this complex are on moderately steep side slopes and foot slopes. They are widely distributed throughout the western two-thirds of the county.

Ruston soils occupy about 50 percent of the acreage. They have a surface layer of yellowish-brown fine sandy loam that is 5 inches thick. The surface layer overlies 20 inches of yellowish-red sandy clay loam. Below the yellowish-red sandy clay loam is yellowish-red fine sandy loam.

Cuthbert soils occupy about 30 percent of the acreage. They have a surface layer of light yellowish-brown fine sandy loam that is 6 inches thick. The surface layer is underlain by 10 inches of yellowish-red silty clay. Below is mottled silty clay that is gray, brown, and red.

Shubuta soils occupy about 20 percent of the acreage. They have a surface layer of brown fine sandy loam that is 5 inches thick. The surface layer overlies 12 inches of red silty clay. Below is red silty clay that is mottled with gray and brown.

In places many fragments of iron-crust rock are on the surface. These fragments are about 1 inch thick and are 1 to 10 inches in diameter. In most places a layer of iron-crust rock underlies the subsoil of the Shubuta and Cuthbert soils. A few shallow gullies and remnants of old terraces are in most old fields.

In places the surface layer is yellowish-red sandy clay loam or silty clay loam. Mapped with the soils of this complex are small areas of Boswell, Guin, and Ora soils.

The soils of this complex are very strongly acid, and their natural fertility and content of organic matter are low. Surface runoff is rapid. Water enters these soils readily. It moves at a moderate to rapid rate through the Ruston soils and at a slow to moderate rate through the Cuthbert and Shubuta soils. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

These soils are not suited to cultivated crops, because they are moderately steep, and are shallow over tough,

plastic clay. Also, the hazard of further erosion is severe. The soils are well suited to trees, permanent pasture, or hay. (The Ruston soil of this complex is in capability unit IVe–11, the Cuthbert soil is in capability unit VIe–19, and the Shubuta soil is in capability unit IVe–19; woodland suitability group 4; wildlife group 4)

Ruston-Cuthbert association, 15 to 50 percent slopes (RtE).—This mapping unit consists of Ruston and Cuthbert soils in areas where the ridgetops are narrow and winding. The soils are also in narrow, nearly level strips in the hollows. The total acreage is large. The soils are widely distributed throughout the western two-thirds of the county.

Ruston soils occupy about 55 percent of the acreage. They have a surface layer of light yellowish-brown fine sandy loam that is 12 inches thick. The surface layer overlies 15 inches of yellowish-red sandy clay loam. The sandy clay loam is underlain by strong-brown fine sandy loam.

Cuthbert soils occupy about 30 percent of the acreage. They have a surface layer of dark grayish-brown fine sandy loam that is 5 inches thick. The surface layer overlies 12 inches of yellowish-red silty clay or clay. Below is gray silty clay or clay that is mottled with red and brown. The remaining 15 percent of the acreage consists partly of Guin, Ora, Boswell, and Shubuta soils and partly of soils that have a texture of sandy loam or loamy sand to a depth of 1½ to 6 feet. It also includes small eroded areas, where the texture of the surface layer is sandy clay loam or silty clay loam. In most of these eroded areas, there are a few shallow and deep gullies. The Guin, Ora, Boswell, Shubuta, and other included soils occur only in some parts of the county. Southeast of the town of Fayette, along Concord and Fayette County Lake Roads, areas of this mapping unit consist of about equal proportions of Ruston and Cuthbert soils.

The soils in this mapping unit are very strongly acid, and their natural fertility and content of organic matter are low. Surface runoff is very rapid. Water enters these soils readily. It moves at a moderate to rapid rate through the Ruston profile, and at a slow to moderate rate through the Cuthbert profile. The available moisture capacity is low.

Nearly all of the areas are wooded, and the dominant trees are oak, hickory, dogwood, and pine. A few small areas were formerly cleared. Later they were abandoned, and now they have reverted to forests of loblolly pine. These soils are not suited to cultivated crops, because of their steep slope and the severe to very severe hazard of erosion. They are suited to trees. (The Ruston soils are chiefly in capability unit VIe–19, and the Cuthbert soils are in capability unit VIIe–19; woodland suitability group 4; not placed in a wildlife group)

Sandy Alluvial Land (Sa)

This land type is along Luxapallila Creek, mostly in areas where the creek breaks over its banks during flood stage. It is in small areas, and its total acreage is small. The soil material consists of stratified sand or loamy sand to sandy loam that ranges from 1½ to 3 feet or more in thickness. The underlying material is intensely mottled loam to clay loam. This land type is flooded frequently in winter and spring and early in summer. The slopes range from 0 to 2 percent.

This land type is strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow. Infiltration and permeability are very rapid through the profile to the underlying material. In the underlying material, it is slow. The available moisture capacity is low.

This land type is poorly suited to cultivated crops because of the low supply of water and nutrients it holds available to plants. It is suited to trees and to some pasture grasses. (Capability unit VIIe–49; woodland suitability group 13; wildlife group 6)

Savannah Series

In the Savannah series are deep, moderately well drained, nearly level to sloping soils that have a fragipan. The soils are mainly on broad, flat uplands of the Coastal Plain. The following describes a representative profile:

0 to 5 inches, dark grayish-brown, very friable loam.
5 to 20 inches, yellowish-brown, friable clay loam.
20 to 42 inches, mottled yellowish-brown and red, compact and brittle clay loam.
42 to 72 inches +, mottled red, brown, and gray, friable sandy clay loam.

The texture of the subsoil ranges from sandy clay loam to clay loam. Depth to the compact and brittle fragipan ranges from 18 to 30 inches. In some areas a few small pebbles of chert and quartz are on the surface.

The Savannah soils are strongly to very strongly acid. Their natural fertility is low, but crops grown on them make good response to fertilizer and lime. Water enters these soils readily and moves at a moderate rate through the profile to the fragipan. In the fragipan it moves more slowly. Because of the fragipan, these soils are slow to warm up in spring. When they dry, a crust tends to form. The crust sometimes causes the stand of crops to be poor. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought, mainly late in spring and in summer.

These soils are widely distributed throughout the western part of the county, but their total acreage is small. Nearly all of the areas are used for cultivated crops. Cotton is the main crop (fig. 10), but the soils are suited to all of the crops grown locally.

Savannah loam, 0 to 2 percent slopes (SbA).—This soil has a surface layer of brown loam that is 6 inches thick. The surface layer overlies about 20 inches of yellowish-brown clay loam. Below the clay loam is a compact and brittle loam fragipan at a depth ranging from 20 to 30 inches.

This soil is strongly acid or very strongly acid, and its content of organic matter and natural fertility are low. Surface runoff is slow or very slow. Infiltration is moderate. Permeability is moderate to the fragipan, but it is slow in the fragipan.

This soil is easy to work, and it is suited to a fairly large number of different crops. When it dries, however, a crust forms that sometimes causes the stand of crops to be poor. The fragipan restricts the penetration of roots and water. During wet seasons, the subsoil is waterlogged and crops may drown out. Crops may be damaged by lack of water during even a short dry period in summer or in fall. (Ca-

Figure 10.—A field of cotton on Savannah loam, 0 to 2 percent slopes. Under a high level of management, yields of 550 pounds of lint cotton per acre are obtained.

pability unit IIw–15; woodland suitability group 5; wildlife group 3)

Savannah loam, 2 to 6 percent slopes (SbB).—This soil has a surface layer of dark-gray loam that is 3 inches thick. The surface layer overlies 5 inches of light yellowish-brown loam. Below the loam is 20 inches of yellowish-brown fine sandy clay loam. A compact and brittle fragipan is at a depth of 20 to 30 inches. In places a few pebbles of chert and quartz are on the surface.

This soil is strongly acid or very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to medium, and infiltration is moderate. Permeability is moderate to the fragipan, but it is slow in the fragipan. The available moisture capacity is low.

This soil is easy to work, and it is suited to a number of different crops. Erosion is a slight to moderate hazard, however, if cultivated crops are grown. This soil may be droughty during even a short dry period. (Capability unit IIe–15; woodland suitability group 5; wildlife group 3)

Savannah loam, 2 to 6 percent slopes, eroded (SbB2).—This soil has a plow layer of dark grayish-brown loam that is 5 inches thick. The plow layer overlies 15 inches of yellowish-brown clay loam. Just below is the compact and brittle fragipan of yellowish-brown clay loam that is mottled with gray. In places few to many pebbles of chert and quartz are on the surface. A few rills and shallow gullies are in some fields.

Mapped with this soil are small areas where the plow layer is yellowish-brown sandy clay loam. Also included are small areas of Ruston, Ora, and Shubuta soils.

This Savannah soil is strongly acid or very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to medium. Infiltration is moderate. Permeability is moderate to the fragipan, but it is slow in the fragipan. The available moisture capacity is low.

This soil is easy to work and is suited to a large number of different crops. Further erosion is a slight to moderate hazard, however, if cultivated crops are grown. This soil is droughty during even a short dry period. (Capability unit IIe–15; woodland suitability group 5; wildlife group 3)

Savannah loam, 6 to 10 percent slopes, eroded (SbC2).—In most places this soil has a plow layer of brown loam that is 4 inches thick. Below the plow layer is 16 inches of yellowish-brown, friable fine sandy clay loam. The fine sandy clay loam is underlain by a compact and brittle fragipan of yellowish-brown, pale-brown, and gray loam. In places few to many pebbles of chert and quartz are on the surface. Depth to the fragipan ranges from 18 to 30 inches. In places the plow layer is yellowish-brown sandy clay loam. A few shallow rills and gullies are in most fields.

Mapped with this soil are small areas where the surface layer is 7 to 10 inches thick. Also included are small areas of Ora and Ruston soils.

This Savannah soil is strongly acid or very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Water enters this soil readily. It moves at a moderate rate through the profile to the fragipan, and then it moves more slowly. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is easy to work, but it clods if worked too wet or too dry. When it dries, a crust forms that sometimes causes the stand of crops to be poor. This soil is suited to a fairly large number of crops, and it is fairly productive under good management. Further erosion is a moderate hazard, however, if cultivated crops are grown. (Capability unit IIIe–15; woodland suitability group 5; wildlife group 3)

Sequatchie Series

In the Sequatchie series are deep, well-drained, nearly level soils on low stream terraces. These soils are in narrow valleys of the Southern Appalachian Plateau. The following describes a representative profile:

0 to 6 inches, brown loam.
6 to 32 inches, dark-brown silty clay loam.
32 to 60 inches, dark-brown loam.

The color of the subsoil ranges from yellowish brown to dark brown. The texture ranges from loam to silty clay loam.

These soils are strongly acid. Their content of organic matter is low, and their natural fertility is moderate. Crops grown on these soils make good response to lime and fertilizer. Water enters these soils readily and moves through the profile at a moderate rate. The root zone is deep, and the available moisture capacity is moderate.

These soils are widely distributed throughout the eastern one-third of the county, but their total acreage is small. Nearly all of the areas are used for cultivated crops, mainly corn and cotton. These are among the most productive soils in the county. They are well suited to all of the crops grown locally.

Sequatchie loam (Sc).—This is the only Sequatchie soil mapped in this county. It has a plow layer of brown loam that is 6 inches thick. The surface layer overlies 26 inches of dark-brown silty clay loam. Below the silty clay loam is 30 inches of dark-brown loam. Varying amounts of sandstone and fragments of shale are in the profile and on the surface. Small areas in low parts of fields are flooded

occasionally. The dominant slope is 0 to 2 percent, but a few small areas have slopes of as much as 6 percent. Mapped with this soil are small areas that have a surface layer of fine sandy loam or silt loam.

This soil is strongly acid. Its natural fertility is moderate, and its content of organic matter is low. Surface runoff is slow to very slow. Water enters this soil readily and moves at a moderate rate through the profile. The available moisture capacity is moderate.

This soil is easy to work and can be tilled within a fairly wide range of moisture content without clodding or crusting. It is among the most productive soils in the county. It is well suited to all of the crops grown locally, and yileds are high under good management. Erosion is a slight hazard, however, if cultivated crops are grown. (Capability unit I–42; woodland suitability group 9; wildlife group 1)

Shubuta Series

In the Shubuta series are deep, moderately well drained or well drained soils on uplands of the Coastal Plain. The soils are gently sloping to moderately steep and are on ridgetops and side slopes. The following describes a representative profile:

0 to 4 inches, brown fine sandy loam.
4 to 18 inches, red silty clay; blocky structure.
18 to 60 inches, red clay mottled with brown; blocky structure.

The color of the subsoil ranges from strong brown to red, and the texture ranges from silty clay loam to clay. In places the lower part of the subsoil is mottled with gray, as well as brown.

These soils are very strongly acid, and their content of organic matter and natural fertility are low. Crops grown on them make fair response to lime and fertilizer. Water enters these soils readily and moves slowly through the profile. The root zone is moderately deep. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

These soils are widely distributed throughout the western two-thirds of the county, and their total acreage is fairly large. Formerly, a large part of the acreage was cultivated, but most of these areas have been abandoned and are reverting to forests of pine. A small acreage is used for pasture. These soils are poorly suited to cultivated crops because their subsoil of firm silty clay or clay is near the surface. Erosion is a hazard if cultivated crops are grown.

Shubuta fine sandy loam, 2 to 6 percent slopes, eroded (SfB2).—This soil has a plow layer of light yellowish-brown fine sandy loam that is 5 inches thick. The surface layer overlies 15 inches of yellowish-red, firm silty clay. Below is mottled gray, yellowish-brown, and red silty clay. In many places the subsoil is red. Small areas where severe erosion has exposed the subsoil are common. Remnants of old terraces are in many old fields. In places many fragments of iron-crust rock are on the surface. These fragments are about 1 inch thick and are 1 to 10 inches in diameter. In most places the subsoil is underlain by a layer of iron-crust rock.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to medium. Water enters this soil at a moderate to rapid rate, but moves slowly through the profile. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is fairly easy to work, except in areas where fragments of iron-crust rock are on the surface, and in small areas where the subsoil is exposed. The range of moisture content suitable for tillage is narrow; the soil clods if worked too wet or too dry. This soil is suited to only a few different crops because tough, dense silty clay or clay is near the surface. Also, the amount of moisture held available for plants is low. If cultivated crops are grown, yields are usually low and there is a moderate hazard of further erosion. This soil is suited to permanent pasture, hay, or trees. (Capability unit IIe–44; woodland suitability group 4; wildlife group 2)

Shubuta fine sandy loam, 6 to 10 percent slopes (SfC).—The surface layer of this soil is dark grayish-brown fine sandy loam that is 3 inches thick. It overlies a layer of yellowish-brown fine sandy loam that is 7 inches thick. The subsoil is yellowish-red, firm silty clay or clay that is 10 inches thick. The material underlying the subsoil is yellowish-red silty clay or clay that is mottled with brown and gray. In places many fragments of iron-crust rock are on the surface. These fragments are about 1 inch thick and are 1 to 10 inches in diameter. In most places a layer of iron-crust rock underlies the subsoil.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Infiltration is moderate to rapid, and permeability is slow. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is fairly easy to work, except in areas where the fragments of iron-crust rock are on the surface. It is poorly suited to row crops because of the tough silty clay or clay near the surface. Also, the hazard of further erosion is moderate to severe. The soil is suited to permanent pasture, hay, or trees. (Capability unit IIIe–44; woodland suitability group 4; wildlife group 2)

Shubuta fine sandy loam, 6 to 10 percent slopes, eroded (SfC2).—This soil has a surface layer of brown fine sandy loam that is 4 inches thick. The surface layer overlies red silty clay that is 16 inches thick. The silty clay is underlain by red, firm clay that is mottled with brown. Small areas are common in which severe erosion has exposed the subsoil of red silty clay. Shallow gullies and remnants of old terraces are in many old fields. In places many fragments of iron-crust rock are on the surface. These fragments are about 1 inch thick and are 1 to 10 inches in diameter. In most places a layer of iron-crust rock underlies the subsoil. Mapped with this soil are small areas of Ora, Ruston, Boswell, and Savannah soils.

This Shubuta soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Water enters this soil at a moderate to rapid rate, but moves slowly through the profile. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is poorly suited to row crops because tough silty clay or clay is near the surface. Also, the hazard of further erosion is moderate to severe. The soil is suited to permanent pasture, hay, or trees. (Capability unit IIIe–44; woodland suitability group 4; wildlife group 2)

Shubuta fine sandy loam, 10 to 15 percent slopes (SfD).—The surface layer of this soil is dark-gray fine sandy loam that is 4 inches thick. It overlies light olive-brown fine sandy loam that is 8 inches thick. The fine sandy loam is underlain by red, firm clay that is mottled with brown and gray at a depth below about 20 inches. In places many fragments of iron-crust rock are on the surface. These fragments are about 1 inch thick and are 1 to 10 inches in diameter. In most places a layer of iron-crust rock underlies the subsoil.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Infiltration is medium to rapid, and permeability is slow. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is poorly suited to row crops because tough silty clay or clay is near the surface and the hazard of erosion is severe. Occasionally, cultivated crops can be grown safely, but yields are generally low. (Capability unit IVe–19; woodland suitability group 4; wildlife group 4)

Shubuta fine sandy loam, 10 to 15 percent slopes, eroded (SfD2).—The surface layer of this soil is dark grayish-brown fine sandy loam that is 5 inches thick. It overlies yellowish-red, firm silty clay that is 10 inches thick. Below is yellowish-red, firm silty clay or clay that is mottled with gray and brown. In places many fragments of iron-crust rock are on the surface. These fragments are about 1 inch thick and are 1 to 10 inches in diameter. In many areas the color of the subsoil is strong brown or red. In most places a layer of iron-crust rock underlies the subsoil. Small areas are common where the subsoil of silty clay is exposed. Shallow gullies and remnants of old terraces are common throughout much of the acreage.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Infiltration is moderate to rapid, and permeability is slow. The available moisture capacity is low; plants may be damaged by lack of water during even a very short period of drought.

This soil is poorly suited to row crops because tough silty clay or clay is near the surface. Also, the hazard of further erosion is severe. The soil can be cultivated occasionally, but yields are generally low. This soil is suited to permanent pasture, hay, or trees. (Capability unit IVe–19; woodland suitability group 4; wildlife group 4)

Shubuta-Boswell complex, 6 to 10 percent slopes, eroded (ShC2).—The soils of this complex are sloping and are on narrow ridgetops. They are in the western two-thirds of the county.

Shubuta soils occupy about two-thirds of the acreage. They have a surface layer of yellowish-brown fine sandy loam that is 4 inches thick and overlies 10 inches of yellowish-red sandy clay or clay. Below the surface layer is yellowish-red clay that is mottled with brown and gray. Fragments of iron-crust rock that are one-half inch thick and 1 to 4 inches in diameter make up about 5 to 10 percent of the profile.

Boswell soils are mainly in small spots, narrow strips, or irregularly shaped patches within areas of Shubuta soils. They have a surface layer of brown fine sandy loam that is 4 inches thick and overlies 10 inches of red, sticky and plastic clay. Below is dense, very plastic clay mottled with red and gray.

Small areas are common where the subsoil of red sandy clay or clay is exposed. Remnants of old terraces and gully scars are in most old fields.

Mapped with the soils of this complex are small areas in which the soils are less sloping than the typical soils and small areas where the surface layer is 8 to 15 inches thick. Also included are small areas that have a more sandy, more friable subsoil.

The soils of this complex are very strongly acid, and their natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Infiltration is moderate to rapid, and permeability is slow or very slow. The available moisture capacity is low.

These soils are fairly easy to work, except in areas where the subsoil of silty clay or clay is exposed. They are suited to only a limited number of crops, however, because of the firm, sticky silty clay or clay near the surface. If these soils are used for cultivated crops, the hazard of further erosion is moderate to severe, and yields are generally low. (Capability unit IVe–19; woodland suitability group 4; wildlife group 2)

Shubuta-Boswell complex, 10 to 15 percent slopes, eroded (ShD2).—The soils of this complex are moderately steep and are on ridgetops, side slopes, and foot slopes. They are in the western two-thirds of the county.

Shubuta soils occupy about two-thirds of the acreage. They have a surface layer of brown fine sandy loam that is 6 inches thick. The surface layer overlies 10 inches of yellowish-red, firm fine sandy clay or silty clay. Below is mottled red, gray, and brown clay.

Boswell soils are mainly in small spots, narrow strips, or irregularly shaped patches within areas of Shubuta soils. They have a surface layer of dark grayish-brown fine sandy loam that is 5 inches thick. Their surface layer overlies red, sticky and plastic clay. Below is mottled red and gray plastic clay. Gully scars and remnants of old terraces are common throughout most of the acreage.

Mapped with the soils of this complex are small areas where the subsoil of tough, plastic clay or silty clay is exposed. Also included are small areas that have a coarser textured, more friable subsoil than the typical Shubuta and Boswell soils.

The soils of this complex are very strongly acid, and their natural fertility and content of organic matter are low. Surface runoff is rapid. Infiltration is moderate to rapid, and permeability is slow or very slow. The available moisture capacity is low.

These soils are fairly easy to work, except in areas where the tough, plastic subsoil is exposed. The soils are not suited to cultivated crops, because of the tough, plastic clay near the surface and the severe hazard of further erosion. They are suited to permanent pasture, hay, or trees. (Capability unit IVe–19; woodland suitability group 4; wildlife group 4)

Shubuta-Boswell complex, 15 to 50 percent slopes (ShE).—The soils of this complex are steep or very steep and are on the sides of hills. They are in the western two-thirds of the county.

Shubuta soils occupy about two-thirds of the acreage. They have a surface layer of dark grayish-brown fine sandy loam that is 2 inches thick. The surface layer overlies 7 inches of yellowish-brown fine sandy loam. Below is 10 inches of red silty clay that is underlain by mottled, red and brownish-yellow sandy clay.

Boswell soils are mainly in small spots, narrow strips, or irregularly shaped patches within areas of Shubuta soils. They have a surface layer of brown fine sandy loam that is 4 inches thick. Their surface layer overlies 12 inches of red, plastic clay. Below is red, plastic clay mottled with gray. In places few to many fragments of iron-crust rock are on the surface. Mapped with the soils of this complex are small areas that have a coarser textured subsoil than the typical Shubuta and Boswell soils.

The soils of this complex are very strongly acid, and their natural fertility and content of organic matter are low. Surface runoff is very rapid. Infiltration is moderate to rapid, and permeability is slow to very slow. The available moisture capacity is low.

These soils are not suited to cultivated crops, because of their steep slopes, the very rapid runoff, and the very severe hazard of erosion. They are well suited to trees. (Capability unit VIIe–19; woodland suitability group 4; wildlife group 4)

Stendal Series

In the Stendal series are deep, somewhat poorly drained, nearly level, silty soils of the Southern Appalachian Plateau. The soils are along or at the heads of small drainageways. The following describes a representative profile:

0 to 7 inches, brown loam.
7 to 30 inches, mottled gray and brown silt loam.
30 to 42 inches +, mottled gray and brown loam.

The texture of the surface layer ranges from fine sandy loam to silt loam. The texture of the material below the surface layer ranges from loam to silty clay loam.

These soils are strongly acid or very strongly acid. Their natural fertility is moderate, and their content of organic matter is low. Crops grown on these soils make good response to lime and fertilizer.

Water enters these soils readily and moves at a moderate rate through the profile. The available moisture capacity is moderate, and the root zone is moderately deep. These soils receive seepage water, but normally they are not subject to flooding. The subsoil is waterlogged during wet seasons, and water stands on the surface for fairly long periods.

These soils are widely distributed, mainly in the eastern one-third of the county. Their total acreage is fairly large. About two-thirds of the acreage is wooded; the dominant trees are gum, maple, oak, and pine. The cleared areas are used mainly for corn or pasture. These soils are not well suited to cultivated crops, because of the high water table and the imperfect drainage. Erosion is not a hazard.

Stendal soils, local alluvium (Sn).—These are the only Stendal soils mapped in this county. Their surface layer is brown. This layer ranges from fine sandy loam to silt loam and is 7 inches thick. Below is 24 inches of mottled gray and brown silt loam. Below the silt loam is mottled gray and brown loam. The profile contains lenses of sand or silt. Fragments of sandstone and shale are common on the surface.

Mapped with these soils are small areas where beds consisting of irregular, broken fragments of sandstone and shale are at a depth of 12 to 30 inches. Also included are small areas of Philo and Atkins soils.

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The Stendal soils are strongly acid or very strongly acid. Their natural fertility is moderate, and their content of organic matter is low. Surface runoff is slow or very slow. These soils receive seepage water, and water stands on the surface for fairly long periods during wet seasons. Infiltration of water, permeability, and the available moisture capacity are moderate.

These soils are fairly easy to work and can be tilled within a fairly wide range of moisture content without clodding or crusting. Their imperfect drainage and the seasonally high water table, however, limit their suitability for some crops. Erosion is not a problem. (Capability unit IIw 11; woodland suitability group 7; wildlife group 6)

Stough Series

In the Stough series are deep, somewhat poorly drained, nearly level soils on low stream terraces of the Coastal Plain. These soils have a weak fragipan. The following describes a representative profile:

0 to 6 inches, brown loam.
6 to 19 inches, olive-brown clay loam mottled with gray.
19 to 30 inches, olive-brown, slightly compact and brittle sandy clay loam with many gray and brown mottles.
30 to 60 inches, mottled brown and gray fine sandy clay loam.

Depth to the fragipan ranges from 16 to 24 inches. The texture of the subsoil ranges from loam to clay loam.

These soils are strongly acid or very strongly acid, and their natural fertility and content of organic matter are low. They give a fair response to lime and fertilizer. Water enters these soils readily. It moves at a moderate rate through the profile to the fragipan, and then it moves slowly. These soils have a seasonally high water table. Their subsoil is waterlogged during wet seasons. The root zone is shallow to moderately deep, and the available moisture capacity is low. Most of the areas are subject to occasional flooding.

Stough soils are along the Sipsey and North Rivers, and along Luxapallila Creek and other large creeks. Their total acreage is fairly large. About half of the areas have been cleared and are used mainly for corn or pasture. These soils are not well suited to cultivated crops, because of their imperfect drainage and the high water table.

Stough loam, 0 to 2 percent slopes (StA).—This is the only Stough soil mapped in this county. It has a plow layer of brown loam that is 6 inches thick. The surface layer overlies 12 inches of olive-brown clay loam mottled with gray. Below is a fragipan of olive-brown sandy clay loam with many gray and brown mottles. In places a few pebbles of chert and quartz are on the surface.

Mapped with this soil are small areas where the slope is between 2 and 6 percent. Also included are small areas of Prentiss and Myatt soils.

This Stough soil is strongly acid or very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow to very slow. Water enters this soil readily. It moves at a moderate rate through the profile to the fragipan, and then it moves slowly. The subsoil is waterlogged during wet periods. The available moisture capacity is low.

This soil is fairly easy to work, but it clods if worked too wet or too dry. When it dries, a crust forms that sometimes causes the stand of crops to be poor. This soil

is suited to only a limited number of crops because of its imperfect drainage, the seasonally high water table, and the susceptibility to occasional flooding. It is well suited to pasture, and corn makes a fair yield in some years. The hazard of erosion is slight, except in areas where floods cause scouring. (Capability unit IIIw–12; woodland suitability group 2; wildlife group 6)

Terrace Escarpments (Tc)

This land type consists of sandy or gravelly soil material on sharp breaks between stream terraces and flood plains. It is mainly along the Sipsey and North Rivers. There is a weakly developed profile in some areas. In places the soil material is nearly all sand or gravel. The slopes range from 10 to 25 percent and are generally short.

This land type is strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Infiltration is rapid, and permeability is very rapid. The available moisture capacity is very low.

This land type is not suited to cultivated crops or pasture, because of the steep slopes, the very rapid permeability, and the severe hazard of erosion. Its best use is probably for trees. (Capability unit VIIe–19; woodland suitability group 13; wildlife group 4)

Townley Series

In the Townley series are shallow and moderately deep, well-drained soils of the Southern Appalachian Plateau. The soils are gently sloping or sloping and are on ridgetops and moderately steep side slopes. They formed in material weathered from shale. The following describes a representative profile:

0 to 5 inches, brown loam.
5 to 20 inches, red silty clay mottled with brown in the lower part.
20 to 26 inches, brown silty clay with red and brown mottles.
26 inches +, level-bedded shale.

The color of the subsoil ranges from yellowish red to dark red, and the texture ranges from silty clay loam to clay. Depth to bedrock ranges from 15 to 36 inches.

These soils are very strongly acid, and their natural fertility and content of organic matter are low. Crops grown on them make fair response to lime and fertilizer. Infiltration and permeability are moderate to slow. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought. The root zone is shallow.

These soils are widely distributed throughout the eastern one-third of the county, and their total acreage is fairly large. The natural vegetation is pine and mixed hardwoods. About one-third of the acreage was formerly used for cultivated crops, but much of this is reverting to forests of loblolly and Virginia pine (fig. 11).

These soils are poorly suited to cultivated crops because of their shallow root zone and the fine texture of their subsoil. Also, erosion is a hazard if cultivated crops are grown.

Townley loam, 2 to 6 percent slopes, eroded (TmB2).—This soil has a surface layer of brown loam that is 5 inches thick. The surface layer overlies 15 inches of red silty clay mottled with brown in the lower part. Below is brown silty clay mottled with red and brown. Depth to shale bedrock is about 25 inches. Fragments of shale and sandstone are common on the surface and in the profile. Rills and shallow gullies are in many fields.

Figure 11.—**A 30-year-old stand of loblolly and Virginia pine growing on Townley loam, 6 to 10 percent slopes, eroded. This area was formerly used for cultivated crops.**

Mapped with this soil are small areas where the surface layer is yellowish-red or red silty clay loam. Also included are small areas of Montevallo soils.

This Townley soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow or medium. Infiltration is moderate, and permeability is moderate to slow. The available moisture capacity is low.

This soil is easy to work, except in small areas where the subsoil of red, firm silty clay is exposed. The soil is fairly well suited to most of the crops grown locally. It is droughty, however, during even a short period of dry weather, because of the shallow root zone and the fine texture of the subsoil. The hazard of further erosion is slight to moderate. (Capability unit IIIe–44; woodland suitability group 11; wildlife group 4)

Townley silty clay loam, 2 to 6 percent slopes, severely eroded (TnB3).—The plow layer of this soil is dark-brown, slightly sticky silty clay loam that is 4 inches thick. The subsoil is red, firm heavy silty clay loam or silty clay that is 12 inches thick. Below is mottled red and brown silty clay. Depth to shale bedrock is about 20 inches. In many places the plow layer is reddish-brown silty clay loam. Shallow gullies are common in much of the acreage. Small fragments of shale and sandstone are common on the surface.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Infiltration is slow, and permeability is moderate to slow. The available moisture capacity is low to very low.

This soil is difficult to work and can be tilled only within a narrow range of moisture content. It clods readily if worked too wet or too dry, and when it dries, a crust forms that sometimes causes the stand of crops to be poor. This soil is not suited to most of the crops grown locally, because it has a shallow root zone and is droughty during even a short period of dry weather. If cultivated crops are grown, the hazard of further erosion is moderate. (Capability unit IVe–444; woodland suitability group 11; wildlife group 8)

Townley loam, 6 to 10 percent slopes (TmC).—This soil has a surface layer of dark grayish-brown loam that is 3 inches thick. The surface layer overlies 5 inches of yellowish-brown loam. The subsoil is yellowish-red, firm silty clay that is 10 inches thick. Below the subsoil is mottled red and brown silty clay. Depth to shale bedrock is about 25 inches. Small fragments of shale and sandstone are common on the surface and throughout the profile.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Infiltration is moderate, and permeability is moderate to slow. The available moisture capacity is low.

This soil is easy to work and can be cultivated within a wide range of moisture content without clodding or crusting. It is suited to a fairly large number of different crops. The root zone is shallow, however, and the soil is droughty during even a short period of dry weather. The hazard of further erosion is moderate. (Capability unit IVe–49; woodland suitability group 11; wildlife group 4)

Townley loam, 6 to 10 percent slopes, eroded (TmC2).—This soil has a surface layer of dark grayish-brown loam that is 5 inches thick. The surface layer overlies 12 inches of red, firm silty clay. Below is variegated yellowish-red and brown, firm silty clay that is 8 inches thick. Depth to shale bedrock is about 25 inches. Small areas are common where the yellowish-red, firm subsoil is exposed. A few shallow rills and gullies are in most fields. Small fragments of shale and sandstone are common on the surface.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is medium to rapid. Infiltration is moderate, and permeability is moderate to slow. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is easy to work, except in small areas where the yellowish-red, firm subsoil is exposed. It is poorly suited to cultivated crops because of its shallow root zone and the moderate hazard of further erosion. However, it can be cultivated occasionally. (Capability unit IVe–49; woodland suitability group 11; wildlife group 4)

Townley silty clay loam, 6 to 10 percent slopes, severely eroded (TnC3).—The plow layer of this soil is yellowish-red, slightly sticky silty clay loam that is 3 inches thick. The subsoil is yellowish-red, firm silty clay that is 8 inches thick. Below is 4 to 8 inches of mottled strong-brown and brownish-yellow, firm silty clay. Depth to shale bedrock is about 20 inches. Small areas are common where the plow layer is red, firm silty clay. A few shallow and deep gullies are in most fields.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Infiltration is slow, and permeability is moderate to slow. The available moisture capacity is low to very low.

This soil is difficult to work, and it can be tilled only within a narrow range of moisture content. It clods if worked too wet or too dry. When it dries, a crust forms that sometimes causes the stand of crops to be poor. This soil is not suited to cultivated crops, because the root zone is shallow and the hazard of erosion is moderate to severe. It is droughty during even a short dry period, but it is suited to permanent pasture, hay, or trees. (Capability unit VIe–111; woodland suitability group 11; wildlife group 8)

Townley loam, 10 to 15 percent slopes, eroded (TmD2).—This soil has a surface layer of grayish-brown loam that is 4 inches thick and overlies about 10 inches of yellowish-red, firm silty clay. Below is mottled brown and red silty clay. Depth to shale bedrock is about 20 inches. Small areas are common where the yellowish-red subsoil is exposed. In places many fragments of shale and sandstone are on the surface. A few shallow rills and gullies are common in some areas.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid. Infiltration is moderate, and permeability is moderate to slow. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought.

This soil is fairly easy to work, except in areas where the subsoil is exposed. It is not suited to row crops, because of its shallow root zone, the moderately steep slopes, and the moderate to severe hazard of further erosion. Its best use is probably for permanent pasture, hay, or trees. (Capability unit VIe–19; woodland suitability group 11; wildlife group 4)

Townley silty clay loam, 10 to 15 percent slopes, severely eroded (TnD3).—This soil has a plow layer of silty clay loam that is 4 inches thick, dark brown, and slightly sticky. The plow layer overlies 10 inches of yellowish-red, firm silty clay. Below is 6 inches of mottled strong-brown and yellowish-brown silty clay. Depth to shale bedrock is about 18 inches. Small patches are common where the plow layer is red, firm silty clay. A few shallow and deep gullies are in most fields.

This soil is very strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is rapid or very rapid. Infiltration is slow, and permeability is moderate to slow. The available moisture capacity is low or very low.

This soil is not suited to most of the crops grown locally, because the root zone is shallow and the hazard of further erosion is severe. Also, the soil is droughty during even a short period of dry weather. Probably the best use of this soil is for trees. (Capability unit VIe–111; woodland suitability group 11; wildlife group 8)

Tyler Series

In the Tyler series are deep, somewhat poorly drained, nearly level soils that have a fragipan. The soils are on low stream terraces of the Southern Appalachian Plateau. The following describes a representative profile:

0 to 8 inches, brown loam.
8 to 22 inches, brown silt loam mottled with gray.
22 to 54 inches, gray, compact and brittle silty clay loam mottled with brown.

The texture of the subsoil ranges from silt loam to silty clay loam. In most places the subsoil is mottled with gray and brown. Depth to the fragipan ranges from 15 to 30 inches.

These soils are medium acid to strongly acid, and their natural fertility and content of organic matter are low. Crops grown on them make good response to lime and fertilizer. Water enters these soils readily and moves at a moderate to slow rate through the profile to the fragipan. Then it moves slowly. These soils have a seasonally high water table, and the subsoil is waterlogged during wet periods. The root zone is shallow to moderately deep, and the available moisture capacity is low.

These soils are widely distributed throughout the eastern one-third of the county, but their total acreage is small. The natural vegetation is chiefly gum, maple, oak, and poplar, but some pines grow naturally in these areas. About half of the acreage is used mainly for pasture and corn. These soils are not well suited to cultivated crops, however, because of their imperfect drainage and high water table.

Tyler loam (Ty).—This is the only Tyler soil mapped in this county. It has a surface layer of brown loam that is 8 inches thick and overlies 14 inches of brown silt loam that is mottled with gray. The silt loam is underlain by a compact and brittle fragipan of gray silty clay loam mottled with brown. In places a few fragments of shale and sandstone are on the surface.

This soil is medium acid to strongly acid, and its natural fertility and content of organic matter are low. Surface runoff is slow or very slow. Water enters this soil readily and moves at a moderate to slow rate through the profile to the fragipan. Then it moves slowly. The water table is high, and the subsoil is waterlogged during wet periods. The available moisture capacity is low; plants may be damaged by lack of water during even a short period of drought, mainly late in summer and in fall.

This soil is slow to warm up in spring, and it clods if worked too wet or too dry. When it dries, a crust forms that sometimes causes the stand of crops to be poor. This soil is poorly suited to row crops because of the imperfect drainage and the seasonally high water table. It is suited to pasture, and corn makes a fair yield in some years. The hazard of erosion is slight. (Capability unit IIIw 12; woodland suitability group 8; wildlife group 6)

Use of Soils for Crops and Pasture [2]

This section is a guide to the management of soils in Fayette County. It does not suggest specific management for individual soils, however, or give detailed information about managing the soils. For more detailed information about management, consult a local representative of the Soil Conservation Service, the Extension Service, or the Agricultural Experiment Station.

This section has several main parts. In the first, general principles of soil management are discussed; then, the capability classification system used by the Soil Conservation Service is described, and the soils are placed in classes, subclasses, and units. After that, the suitability of the soils and the management requirements for the soils of each capability unit are discussed. Finally, estimates of yields for suitable crops are given for each of the soils under two levels of management.

General Principles of Soil Management

Differences among soils in such properties as slope, texture, depth to bedrock, fertility, and wetness result in differences in the suitability for crops and in management needs. Because each farm has its own pattern of soils, it therefore has its own management problems. Some of the principles of farm management, however, are general enough to apply to the soils of all farms. Other management procedures apply only to specific soils and to certain crops. This part of the report describes general principles of management that may be applied to all the soils of the county. Specific management problems relating to the soils of certain groups are discussed in greater detail in the section "Management by Capability Units."

Fertility needs.—Most of the soils in this county are naturally acid, low in content of organic matter and available nitrogen, and low to medium in content of available phosphorus and potassium. On most of the soils, however, good response is received from lime and fertilizer.

This report gives only general information on the needs for lime and fertilizer. The specific rate of application should be based on soil tests and on recommendations of the Alabama Agricultural Experiment Station at Auburn. The amount of fertilizer and lime needed depends not only upon the results of the soil tests, but also on the crop to be grown, on the past cropping history, on the level of yield desired, and on the soil type.

Samples sent in for laboratory testing should consist of a single soil type. The soil map is a good guide for locating areas where samples can be taken. Each sample should represent no more than 10 acres. The county extension agent can supply detailed instructions regarding soil sampling for tests that will determine fertilizer needs.

Maintaining the content of organic matter.—Organic matter is important in making the surface layer mellow, as a source of nitrogen for crops, and as a medium for holding plant nutrients in the soils. The soils of this county were never high in content of organic matter, and it is not economical to attempt building up a large amount. It is important, however, to maintain a level at least as high as that in the soil originally. The level of organic matter can be maintained by adding manure, by leaving plant residue on the soil, and by promoting greater growth of plants and the development of an extensive root system. Thus, maintaining the content of organic matter can be made easier by liming and fertilizing so that yields will increase.

Soil tillage.—The two major purposes of tillage are to prepare a seedbed and to control weeds. Planting, cul-

[2] M. E. Holt, conservation agronomist, and O. R. Carter, soil scientist, Soil Conservation Service, assisted in the preparation of this section.

tivating, and harvesting operations, however, usually alter the structure of the soils. Therefore, overcultivation should be avoided. Adding organic matter and growing sod crops aid materially in restoring the structure of the soils.

Some of the finer textured soils puddle during severe rains, and their surface layer seals over. As a result, the infiltration of water is reduced, and runoff and erosion are increased. The use of tillage implements that stir the surface soil and leave crop residue on top helps to protect the surface from beating raindrops and also retards crusting. This type of tillage increases the rate of infiltration and lessens runoff and erosion. Mulch tillage helps to prevent loss of water through evaporation. Soils that are high in content of clay become cloddy unless they are cultivated only within a narrow range of moisture content.

A compacted layer is likely to develop just below plow depth in some soils if plowing is done frequently at the same depth. This compacted layer is generally called a plowpan or plowsole. It can be kept from developing by growing more sod crops or by slightly changing the depth of plowing from one time to another.

Drainage.—Yields of most crops can be increased on wet soils by removing the excess water. This is especially true where cultivated crops are grown. Excess moisture prevents preparation of the seedbed at the proper time and delays planting. Also, it creates an unfavorable environment for the roots of the most common crops, and at times it actually drowns out the crop.

The most common method of removing excess water is by open ditches. These ditches are used to protect low-lying areas from seepage water and excess surface water.

Soils that contain a claypan or a fragipan generally are difficult to drain, and they do not respond well to management after they are drained. Open ditches are effective only where they intercept water that moves laterally on top of the pan. Even in areas that are drained, the pan may prevent high yields of crops such as corn. Generally, wet soils that are deep and permeable are highly productive if they are drained and adequate amounts of lime and fertilizer are added. A system of drainage ditches should not be installed, however, unless an outlet is available.

Capability Groups of Soils

The capability classification is a grouping that shows, in a general way, how suitable soils are for most kinds of farming. It is a practical grouping based on limitations of the soils, the risk of damage when they are used, and the way they respond to treatment.

In this system all the kinds of soil are grouped at three levels, the capability class, subclass, and unit. The eight capability classes in the broadest grouping are designated by Roman numerals I through VIII. In class I are the soils that have few limitations, the widest range of use, and the least risk of damage when they are used. The soils in the other classes have progressively greater natural limitations. In class VIII are soils and landforms so rough, shallow, or otherwise limited that they do not produce worthwhile yields of crops, forage, or wood products.

The subclasses indicate major kinds of limitations within the classes. Within most of the classes there can be up to four subclasses. The subclass is indicated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* means that water in or on the soil will interfere with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited, mainly because it is shallow, droughty, or stony, and *c*, used in only some parts of the country, indicates that the chief limitation is a climate that is too cold or too dry.

In class I there are no subclasses, because the soils of this class have few or no limitations. Class V can contain, at the most, only subclasses *w*, *s*, and *c*, because the soils in it have little or no susceptibility to erosion but have other limitations that restrict their use largely to pasture, range, woodland, or wildlife.

Within the subclasses are the capability units, groups of soils enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity and other responses to management. Thus, the capability unit is a convenient grouping for making many statements about management of soils. Capability units are generally identified by numbers assigned locally, for example, IIe–11 or IIIe–12. The capability units are not numbered consecutively in Fayette County, because not all of the capability units used in Alabama are in this county.

Soils are classified in capability classes, subclasses, and units in accordance with the degree and kind of their permanent limitations; but without consideration of major and generally expensive landforming that would change the slope, depth, or other characteristics of the soil; and without consideration of possible but unlikely major reclamation projects.

The eight classes in the capability system, and the subclasses and units in this county, are described in the list that follows.

Class I: Soils that have few limitations that restrict their use.

- Unit I–42: Deep, well-drained, nearly level, friable loams and fine sandy loams.

Class II: Soils that have some limitations that reduce the choice of plants or that require moderate conservation practices.

Subclass IIe: Soils subject to moderate erosion if they are not protected.

- Unit IIe–11: Deep, gently sloping, well-drained loams that have a subsoil of clay loam or silty clay.
- Unit IIe–12: Deep, gently sloping, well-drained fine sandy loams that have a subsoil of sandy clay loam.
- Unit IIe–15: Deep, gently sloping, moderately well drained fine sandy loams and loams that have a fragipan.
- Unit IIe–44: Moderately deep and deep, gently sloping, moderately well drained or well drained fine sandy loams and loams that have a subsoil of firm silty clay or clay.

Subclass IIw: Soils that have moderate limitations because of excess water.
Unit IIw–11: Deep, nearly level, well-drained to somewhat poorly drained soils formed in alluvium; the soils are not subject to flooding, but they receive seepage water during wet seasons.
Unit IIw–12: Deep, nearly level, well-drained to somewhat poorly drained soils formed in alluvium; the soils are subject to flooding.
Unit IIw–15: Deep, nearly level, moderately well drained loams and fine sandy loams that have a fragipan.

Class III: Soils that have severe limitations that reduce the choice of plants, or that require special conservation practices, or both.
Subclass IIIe: Soils subject to severe erosion if they are cultivated and not protected.
Unit IIIe–12: Deep, sloping, well-drained fine sandy loams and loams that have a subsoil of sandy clay loam to clay.
Unit IIIe–15: Deep, sloping, moderately well drained fine sandy loams and loams that have a fragipan.
Unit IIIe–44: Shallow to deep, well drained or moderately well drained, sloping soils that are slightly eroded to severely eroded and have a subsoil of firm silty clay or clay.
Subclass IIIw: Soils that have severe limitations because of excess water.
Unit IIIw–11: Deep, nearly level, poorly drained soils formed in alluvium; the soils are not subject to flooding, but they receive seepage water.
Unit IIIw–12: Deep, nearly level, somewhat poorly drained loams that have a fragipan.

Class IV: Soils that have very severe limitations that restrict the choice of plants, or that require very careful management, or both.
Subclass IVe: Soils subject to very severe erosion if they are cultivated and not protected.
Unit IVe–11: Deep, moderately steep, well drained or moderately well drained fine sandy loams that have a subsoil of sandy clay loam.
Unit IVe–111: Deep, sloping, moderately well drained and well drained, severely eroded clay loams and sandy clay loams that have a subsoil of fine sandy clay loam to clay.
Unit IVe–19: Moderately deep and deep, moderately well drained or well drained soils that are sloping or moderately steep and have a subsoil of sandy clay loam to clay.
Unit IVe–49: Shallow or moderately deep, sloping, well-drained to excessively drained soils.
Unit IVe–444: Shallow or moderately deep, gently sloping and sloping, well-drained, severely eroded soils.
Subclass IVw: Soils that have very severe limitations for cultivation, because of excess water.
Unit IVw–11: Deep, nearly level, poorly drained soils that are subject to flooding or ponding.

Class V: Soils not likely to erode that have other limitations, impractical to remove, that limit their use largely to pasture or range, woodland, or wildlife food and cover. (None in Fayette County)

Class VI: Soils that have severe limitations that make them generally unsuitable for cultivation and that limit their use largely to pasture or range, woodland, or food and cover for wildlife.
Subclass VIe: Soils severely limited, chiefly by risk of erosion, if protective cover is not maintained.
Unit VIe–19: Shallow to deep, moderately steep and steep, moderately well drained to excessively drained soils that have a subsoil of gravelly, clayey, sandy, stony, or loamy material.
Unit VIe–111: Shallow to deep, well-drained or somewhat excessively drained soils that are sloping or moderately steep and severely eroded. They have a subsoil of sandy clay loam to silty clay, or their subsoil is clayey or stony.

Class VII: Soils that have very severe limitations that make them unsuited to cultivation and that restrict their use largely to grazing, woodland, or wildlife.
Subclass VIIe: Soils very severely limited, chiefly by risk of erosion if protective cover is not maintained.
Unit VIIe–19: Moderately deep or deep, steep, moderately well drained or well drained soils.
Unit VIIe–49: Shallow, steep, well-drained to excessively drained soils.

Class VIII: Soils and landforms that have limitations that preclude their use for commercial production of plants and restrict their use to recreation, wildlife, water supply, or esthetic purposes. (None in Fayette County)

Management by capability units

In this section the soils of this county that require about the same kind of management are grouped in capability units. The significant features of the soils in each capability unit, together with their hazards and limitations, are described, and suggestions for use and management of the soils of each unit are given. Three mapping units—Gravel pit, Terrace escarpments, and Mantachie, Leaf, and Iuka soils—were not placed in a capability unit. Gravel pit and Terrace escarpments are not suited to agriculture; the undifferentiated unit of Mantachie, Leaf, and Iuka soils is too susceptible to flooding and too difficult to drain to be suitable for cultivated crops.

CAPABILITY UNIT I–42

The soils in this unit are deep, well drained, and nearly level. Their surface layer is friable fine sandy loam or loam, and their subsoil is thick, brownish or reddish, friable sandy clay loam, clay loam, or silty clay loam. The soils in this unit are—

Greenville loam, 0 to 2 percent slopes.
Ruston fine sandy loam, 0 to 2 percent slopes.
Sequatchie loam.

Water and roots penetrate these soils easily to a depth of several feet. The soils are strongly acid. Their natural fertility and content of organic matter are low, and their available moisture capacity is moderate to low.

These soils occupy less than 1 percent of the county. About 75 percent of the acreage is in cultivated crops, 15 percent is in pasture, and 10 percent is in forest. Suitable crops are cotton, corn, sorghum, soybeans, small grains, truck crops, and most grasses and legumes. Yields of pecans are high.

Row crops can be grown year after year if adequate amounts of lime and fertilizer are applied, and if the content of organic matter is maintained by returning all crop residue to the soils.

For high yields of all crops and pasture plants, apply a large amount of fertilizer. Lime will increase the yields of most legumes and of many row crops and grasses. The soils can be tilled within a wide range of moisture content, and good tilth is easy to maintain. A good cropping system and proper management of crop residue will control runoff.

CAPABILITY UNIT IIe–11

The soils in this unit are deep, well drained, and gently sloping. Their surface layer is brown loam, and their subsoil is dark-red, friable clay loam or silty clay that is several feet thick. About 40 percent of the acreage is underlain by sandstone bedrock at a depth of 2½ to 6 feet, and about 60 percent is underlain by several feet of sandy clay loam marine sediments. The soils in this unit are—

Greenville loam, 2 to 6 percent slopes, eroded.
Hanceville loam, 2 to 6 percent slopes, eroded.

Water and roots can penetrate these soils easily to a depth of several feet. The soils are very strongly acid. Their natural fertility and content of organic matter are low. Surface runoff is slow to medium, and the available moisture capacity is moderate. The hazard of erosion is slight to moderate.

These soils occupy less than 1 percent of the county. About 80 percent of the acreage is in cultivated crops, 10 percent is in pasture, and 10 percent is in forest. Suitable crops are cotton (fig. 12), corn, sorghum, soybeans, small grains, truck crops, and most legumes and grasses. Yields of peaches and pecans are high.

A good cropping system is 1 or 2 years of grass, small grains or other close-growing crops, and 2 years of row crops. Row crops can be grown year after year if adequate lime and fertilizer are applied, and if the content of organic matter is maintained by returning all crop residue to the soils.

For high yields of all crops and pasture plants, apply a large amount of fertilizer. Lime will increase the yields of most legumes and of many field crops, truck crops, and grasses. Boron should be added if alfalfa is grown. The soils can be tilled within a wide range of moisture content, and good tilth is easy to maintain. To control runoff, till on the contour, build terraces, grass the waterways, and plant borders around the fields. Use a good cropping system and good management of crop residue.

The soils in this capability unit are suited to sprinkler irrigation.

CAPABILITY UNIT IIe–12

The soils in this unit are deep, well drained, and gently sloping. Their surface layer is fine sandy loam, and their subsoil is reddish, friable sandy clay loam. Stratified beds of loam or sandy loam marine sediments are at a depth of 3 to 4 feet. The soils in this unit are—

Figure 12.—**Cotton growing on Greenville loam, 2 to 6 percent slopes, eroded. Yields of about 800 pounds of lint per acre can be expected on this soil if a good rotation is followed.**

Ruston fine sandy loam, 2 to 6 percent slopes.
Ruston fine sandy loam, 2 to 6 percent slopes, eroded.

Surface runoff is medium, and the hazard of erosion is slight to moderate. Water enters these soils readily and moves at a moderate rate through the profile. Roots penetrate the soils easily. The available moisture capacity is low. The soils are very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy approximately 1 percent of the county. About 60 percent of the acreage is in cultivated crops, 20 percent is in pasture, and 20 percent is in forest. Suitable crops are cotton, corn, sorghum, soybeans, small grains, truck crops, and most legumes and grasses. Yields of peaches and pecans are high.

A good cropping system is 2 years of grass, a small grain, or other close-growing crop and 2 years of row crops. Row crops can be grown year after year if adequate lime and fertilizer are applied, and if the content of organic matter is maintained by returning all crop residue to the soils.

For high yields of all crops and pasture plants, apply a large amount of fertilizer. Lime will increase the yields of most legumes and of many field crops, truck crops, and grasses. Boron should be added if alfalfa is grown. The soils can be tilled within a wide range of moisture content, and good tilth is easy to maintain. To control runoff, till on the contour, build terraces, grass the waterways (fig. 13), and plant borders around the fields. Use a good cropping system and good management of crop residue.

Figure 13.—**Newly constructed terraces on Ruston fine sandy loam, 2 to 6 percent slopes, eroded.**

The soils in this capability unit are suited to sprinkler irrigation.

CAPABILITY UNIT IIe–15

The soils in this unit are deep, moderately well drained, and gently sloping. In the lower part of their subsoil they have a fragipan that is compact in place, but brittle if disturbed. Their surface layer is light-colored fine sandy loam or loam, and their subsoil is yellowish-brown and red sandy clay loam, clay loam, or silty clay loam. The fragipan is commonly at a depth of about 2 feet. The soils in this unit are—

Leadvale loam, 2 to 6 percent slopes.
Ora fine sandy loam, 2 to 6 percent slopes, eroded.
Prentiss fine sandy loam, 2 to 6 percent slopes, eroded.
Savannah loam, 2 to 6 percent slopes.
Savannah loam, 2 to 6 percent slopes, eroded.

Water and roots easily penetrate these soils above the fragipan, but penetration is greatly restricted in the fragipan. The subsoil is waterlogged during wet seasons, usually in winter and early in spring. These soils have low available moisture capacity. They are strongly to very strongly acid, and their natural fertility and content of organic matter are low. Surface runoff is medium, and the hazard of erosion is slight to moderate.

These soils occupy about 3 percent of the county. About 80 percent of the acreage is in cultivated crops, 15 percent is in pasture, and 5 percent is in forest. Suitable crops are corn, cotton, small grains, sorghum, soybeans, some truck crops, and many pasture grasses and legumes (fig. 14). Pecan trees are suited to these soils. Peach trees are suited in some areas.

A good cropping system is 2 years of grass, a small grain, lespedeza, or other close-growing crop, and 2 years of row crops.

For high yields of all crops and pasture plants, add a large amount of fertilizer. Add lime to obtain high yields of most legumes and to increase the yields of many of the field crops, truck crops, and grasses. These soils can be tilled only within a narrow range of moisture content. Contour tillage, terraces, grassed waterways, and field borders are needed on the stronger slopes. To control runoff, use a good cropping system and leave all crop residue on the soils.

Figure 14.—**Dairy cows grazing a summer pasture of dallisgrass, bermudagrass, bahiagrass, and white clover on Savannah loam, 2 to 6 percent slopes, eroded. This soil will support as much as 135 cow-acre-days of grazing annually if it is well managed.**

Some areas of these soils are suited to sprinkler irrigation.

CAPABILITY UNIT IIe–44

This unit consists of moderately deep and deep, moderately well drained or well drained soils that are gently sloping. The soils have a surface layer of fine sandy loam or loam and a subsoil of reddish, firm silty clay or clay. In about 85 percent of the acreage, they are underlain by shale bedrock at a depth of 2½ to 5 feet. In about 15 percent, they are underlain by stratified beds of sandy clay loam or clay marine sediments at a depth of 3 to 6 feet. The soils in this unit are—

Enders loam, 2 to 6 percent slopes.
Enders loam, 2 to 6 percent slopes, eroded.
Shubuta fine sandy loam, 2 to 6 percent slopes, eroded.

Runoff is medium, and the hazard of erosion is slight to moderate. Water enters these soils readily, but moves at a moderate or moderately slow rate through the profile. The available moisture capacity is moderate to low. These soils are very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy about 1 percent of the county. Approximately 50 percent of the acreage is in cultivated crops, 15 percent is in pasture, and 35 percent is in forest. Suitable crops are corn, cotton, small grains, sorghum, soybeans, truck crops, and most grasses and legumes (fig. 15). Some areas are suited to peaches and pecans.

A good cropping system is 2 years of close-growing crops, followed by 2 years of row crops. If fertilizer and lime are applied and if winter cover crops are grown and all crop residue is left on these soils, a cropping system consisting of 1 year of close-growing crops, followed by 2 years of row crops can be used. The crop residue will maintain the supply of organic matter.

Add a large amount of fertilizer to obtain high yields of field crops and pasture plants. These soils need to be limed before most legumes are planted. Most of the other

Figure 15.—**Coastal bermudagrass on Enders loam, 2 to 6 percent slopes, eroded. On this soil as much as 3⅗ tons of hay or 160 cow-acre-days of grazing can be obtained annually under good management.**

crops suited to these soils also respond to lime. These soils are fairly easy to work, but they can be tilled only within a narrow range of moisture content. Also, fragments of shale and iron-crust rock interfere somewhat with tillage.

Contour tillage, terraces, grassed waterways, and field borders will help to control runoff in the more sloping areas of these soils. A good cropping system and intensive use of crop residue are needed on all the areas.

These soils are suited to sprinkler irrigation.

CAPABILITY UNIT IIw–11

This unit consists of deep, well-drained to somewhat poorly drained soils that are nearly level. The soils have formed in alluvium and are at the heads of small drains and in depressions in the uplands. They are not subject to flooding, but they receive seepage water during wet seasons. In most places these soils have a surface layer of fine sandy loam to silt loam and a subsoil of loam to silt loam. In places they are mottled below a depth of 6 inches. The soils in this unit are—

Iuka-Ochlockonee complex, local alluvium.
Mantachie soils, local alluvium.
Philo soils, local alluvium.
Stendal soils, local alluvium.

Runoff is slow or very slow, and erosion is not a hazard. Infiltration is medium, and permeability is moderate to rapid. The available moisture capacity is moderate to high. These soils are strongly or very strongly acid. Their natural fertility is moderate, and their content of organic matter is low.

These soils occupy about 5 percent of the county. About 50 percent of the acreage is in cultivated crops, 25 percent is in pasture, and 25 percent is in forest. Suitable crops are corn, cotton in most areas, small grains, sorghum, soybeans, some truck crops, and most grasses and legumes. Fescue and white clover are fairly well suited.

Row crops can be grown year after year if an adequate amount of lime and fertilizer are added, and if the content of organic matter is maintained by returning all crop residue to the soils. It is better, however, to rotate row crops with close-growing crops.

Apply a moderately large amount of fertilizer. Lime will increase the yield of most legumes and of many field crops, truck crops, and grasses. Most areas of these soils are easy to work and can be tilled within a wide range of moisture content. Runoff is not a serious hazard, because the slopes are gentle.

These soils are suited to sprinkler and surface irrigation.

CAPABILITY UNIT IIw–12

This unit consists of deep, well-drained to somewhat poorly drained, nearly level soils that are subject to flooding and are on first bottoms. In most places the texture of their surface layer is sandy loam to silt loam. Below the surface layer is fine sandy loam to silt loam. In places the soils are mottled below a depth of 6 inches. Generally, they have lenses of sand throughout the profile. The soils in this unit are—

Iuka silt loam.
Mantachie fine sandy loam.
Ochlockonee loam.
Ochlockonee sandy loam.

These soils are subject to occasional overflow, mainly in winter and early in spring. The floodwaters cover the soils for a period of 1 to 2 days. Surface runoff is slow or very slow, and erosion is not a hazard, except in areas where floods cause scouring. Water enters these soils readily and moves at a moderate rate through the profile. The available moisture capacity is moderate to high. The soils are strongly to very strongly acid. Their natural fertility is moderate, and their content of organic matter is low.

These soils occupy about 3½ percent of the county. About 40 percent of the acreage is in cultivated crops, 30 percent is in pasture, and 30 percent is in forest. Suitable crops are corn (fig. 16), cotton, small grains, sorghum, soybeans, some truck crops, and most grasses and legumes. Pecan trees are also suited.

Row crops can be grown year after year if an adequate amount of fertilizer and lime is added and if the supply of organic matter is maintained by returning all crop residue to the soils.

Add a moderately large amount of fertilizer to obtain high yields of all crops and pasture plants. Lime will increase the yield of most legumes and of many field crops, truck crops, and grasses. The soils can be tilled within a fairly wide range of moisture content, and good tilth is fairly easy to maintain. Runoff is not a serious hazard, because the slopes are gentle. A cover crop in winter will help to prevent scouring caused by the occasional floods.

These soils are suited to sprinkler and surface irrigation.

CAPABILITY UNIT IIw–15

The soils in this unit are deep, moderately well drained, and nearly level. In the lower part of the subsoil, they have a compact and brittle fragipan. Their surface layer is light-colored fine sandy loam and loan, and their subsoil is yellowish sandy clay loam or clay loam. The fragipan is mottled and is at a depth of about 2 feet in most places. The soils in this unit are—

Prentiss fine sandy loam, 0 to 2 percent slopes.
Savannah loam, 0 to 2 percent slopes.

Figure 16.—**Corn growing on Ochlockonee loam. As much as 90 bushels of corn per acre is produced on this soil under good management.**

Runoff is slow or very slow, and there is little or no hazard of erosion. Water and roots easily penetrate these soils above the fragipan, but penetration is much slower in the pan. Water moves slowly through the fragipan, and the subsoil is waterlogged during wet seasons, mainly in winter and early in spring. These soils have low available moisture capacity. They are strongly to very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy about 1 percent of the county. About 75 percent of the acreage is in cultivated crops, 15 percent is in pasture, and 10 percent is in forest. Suitable crops are corn, cotton, small grains, sorghum, soybeans, some truck crops, and most grasses and legumes.

Row crops can be grown year after year if an adequate amount of fertilizer and lime is added, and if the content of organic matter is maintained by returning all crop residue to the soils. It is better, however, to rotate row crops with other crops.

For high yields of all crops and pasture plants, apply a large amount of fertilizer. Lime will increase the yields of most legumes and of many other crops. These soils can be tilled only within a narrow range of moisture content. Runoff is not a serious hazard, because the slopes are gentle.

These soils are suited to sprinkler and surface irrigation.

CAPABILITY UNIT IIIe–12

The soils in this unit are deep, sloping, and well drained. Their surface layer is loam or fine sandy loam, and their subsoil is yellowish-red to dark-red sandy clay loam to clay. About 95 percent of the acreage is underlain by stratified beds of loam or sandy loam marine sediments at a depth of 3 to 4 feet. The remaining 5 percent is underlain by several feet of sandy clay loam marine sediments. The soils in this unit are—

Greenville loam, 6 to 10 percent slopes, eroded.
Magnolia fine sandy loam, 2 to 10 percent slopes, eroded.
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes (Ruston soil only).
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes, eroded (Ruston soil only).
Ruston fine sandy loam, 6 to 10 percent slopes.
Ruston fine sandy loam, 6 to 10 percent slopes, eroded.

Runoff is medium, and the hazard of erosion is moderate. Water enters these soils readily and moves through them at a moderate to rapid rate. The root zone is thick, and roots can penetrate these soils easily. The available moisture capacity is moderate to low. These soils are very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy about 6 percent of the county. About 25 percent of the acreage is in cultivated crops, 5 percent is in pasture, and 70 percent is in forest. Suitable crops are cotton, corn, sorghum, soybeans, small grains, truck crops, most grasses and legumes, peaches, and pecans.

Row crops can be grown in either of the following cropping systems: 2 years of fescue or other perennial sod crops, followed by 1 year of row crops; or 2 years of a perennial sod crop, followed by 2 years of row crops.

Crops grown on these soils make good response if a large amount of fertilizer, lime, and organic matter is added. Add boron if alfalfa is to be grown. The content of organic matter can be maintained by growing a cover crop in winter and leaving all crop residue on the soils. These soils can be tilled within a wide range of moisture content, and good tilth is easy to maintain. Growing a sod crop is the most effective way of controlling runoff. In cultivated fields use contour tillage and terraces, and construct grassed waterways and field borders. Stripcropping is also effective in controlling runoff.

These soils are suited to sprinkler irrigation.

CAPABILITY UNIT IIIe–15

The soils in this unit are deep, moderately well drained, and sloping. They have a light-colored surface layer of fine sandy loam or loam and a yellowish-brown and red subsoil of sandy clay loam or clay loam. A compact and brittle fragipan is at a depth of about 2 feet in most places. The soils in this unit are—

Ora fine sandy loam, 6 to 10 percent slopes.
Ora fine sandy loam, 6 to 10 percent slopes, eroded.
Savannah loam, 6 to 10 percent slopes, eroded.

Runoff is medium, and the hazard of erosion is moderate. Water and roots easily penetrate the soil material above the fragipan, but penetration is greatly restricted in the fragipan. The lower part of the subsoil is waterlogged during wet seasons, usually in winter and early in spring. These soils have low available moisture capacity because roots generally cannot penetrate to a depth greater than 2 feet. They are strongly or very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy about 2 percent of the county. About 50 percent of the acreage is in cultivated crops, 10 percent is in pasture, and 40 percent is in forest. Suitable crops are corn, cotton, small grains, sorghum, soybeans,

truck crops, and many grasses and legumes. Some areas are also suited to peaches and pecans.

A good cropping system is 2 years of a perennial sod crop and 1 or 2 years of row crops. Plant a winter cover crop each year after the row crop is harvested. The supply of organic matter can be maintained by leaving all crop residue on the soils.

Add a large amount of fertilizer to obtain high yields of all field crops and pasture plants. Lime will increase the yields of most legumes and of many field crops, truck crops, and grasses. These soils can be tilled only within a somewhat narrow range of moisture content. Plant a perennial sod crop to control runoff. In cultivated areas use contour tillage and construct terraces, grassed waterways, and field borders. Stripcropping also helps to control runoff.

These soils are suited to sprinkler irrigation.

CAPABILITY UNIT IIIe-44

This unit consists of moderately well drained or well drained, sloping soils that are slightly eroded to severely eroded. The soils are shallow to deep over marine sediments or bedrock. They have a surface layer of fine sandy loam to clay loam and a subsoil of reddish, firm silty clay or clay. About 40 percent of the acreage is underlain by stratified beds of sandy clay loam or clay marine sediments at a depth of 3 to 6 feet. About 60 percent is underlain by shale and sandstone bedrock at a depth of 1½ to 5 feet. The soils in this unit are—

Enders loam, 6 to 10 percent slopes.
Enders loam, 6 to 10 percent slopes, eroded.
Enders clay loam, 2 to 6 percent slopes, severely eroded.
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes (Shubuta soil only).
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes, eroded (Shubuta soil only).
Shubuta fine sandy loam, 6 to 10 percent slopes.
Shubuta fine sandy loam, 6 to 10 percent slopes, eroded.
Townley loam, 2 to 6 percent slopes, eroded.

Runoff is medium, and the hazard of erosion is moderate. Water enters these soils readily, but moves at a moderate or moderately slow rate through the profile. The soils have moderate to low available moisture capacity. They are very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy about 4 percent of the county. About 20 percent of the acreage is in cultivated crops, 10 percent is in pasture, and 70 percent is in forest. Suitable crops are corn, cotton, small grains, sorghum, some truck crops, and most grasses and legumes. Some areas are also suited to peaches and pecans.

A good cropping system is 2 years of a perennial sod crop, followed by 1 year of a row crop. Less suitable, but adequate, is 2 years of a perennial sod crop, followed by 2 years of row crops. Add a large amount of fertilizer, lime, and organic matter to obtain high yields of all field crops and pasture plants. To maintain the content of organic matter, plant a winter cover crop as soon as the row crops are harvested, and leave all crop residue on the soils. These soils are fairly easy to work, but they can be tilled only within a narrow range of moisture content. Fragments of shale or iron-crust rock interfere somewhat with tillage. Growing perennial sod crops is the most effective way of controlling runoff. Use contour tillage, and construct terraces, grassed waterways, and field borders in cultivated fields. Stripcropping also helps to control runoff.

These soils are suited to sprinkler irrigation.

CAPABILITY UNIT IIIw-11

This unit consists of deep, poorly drained, nearly level soils at the heads of small drainageways and in depressions in the uplands. The soils formed in alluvium. They are not subject to flooding but receive seepage water. The texture of the surface layer ranges from fine sandy loam to silt loam. Below the surface layer is mottled gray and brown fine sandy loam to silty clay loam. The soils in this unit are—

Atkins soils, local alluvium.
Bibb soils, local alluvium.

Runoff is slow or very slow, and erosion is not a hazard. Normally, these soils are not flooded, but seepage water is a problem during wet seasons. At times, water stands on the surface for a long period late in winter and in spring. Infiltration is medium to slow, and permeability is slow to moderate. The available moisture capacity is high. These soils are strongly acid to very strongly acid, and their natural fertility is moderate.

These soils occupy about 1 percent of the county. About 5 percent of the acreage is in cultivated crops, 20 percent is in pasture, and 75 percent is in forest. Suitable crops are dallisgrass, bahiagrass, fescue, white clover, Caley peas, and annual lespedeza. Some areas are suited to corn, sorghum, soybeans, small grains, and some truck crops.

A good cropping system is 2 years of sod crops and 2 years of row crops. Less suitable, but adequate, is 1 year of a close-growing crop, such as lespedeza, followed by 2 years of row crops.

Add a large amount of fertilizer, lime, and organic matter to obtain high yields of most crops. Leave all crop residue on the soil to help maintain the content of organic matter. Tillage and other fieldwork is difficult if these soils are wet. Artificial drainage is needed in many areas to dispose of excess water during rainy periods.

CAPABILITY UNIT IIIw-12

The soils in this unit are deep, somewhat poorly drained, and nearly level. Their surface layer is light-colored loam, and their subsoil is pale-brown sandy clay loam or clay loam that is mottled with gray. In the lower part of the subsoil, they have a fragipan that is compact in place but brittle if disturbed. In most places the fragipan is at a depth of about 18 inches. The soils in this unit are—

Pheba loam.
Stough loam, 0 to 2 percent slopes.
Tyler loam.

Runoff is slow or very slow, and there is a little or no hazard of erosion. Water and roots easily penetrate the soils above the fragipan, but penetration is much slower in the pan. Water moves slowly through the pan, and the subsoil is waterlogged during wet seasons. These soils have low available moisture capacity. They are strongly to very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy less than 1 percent of the county. About 30 percent of the acreage is in cultivated crops, 30 percent is in pasture, and 40 percent is in forest. Suitable crops are sorghum, soybeans, dallisgrass, fescue, bahiagrass, white clover, Caley peas, and annual lespedeza.

A good cropping system is 2 years of sod crops and 2 years of row crops. Less suitable, but adequate, is 1 year of Caley peas that have made seed, followed by 2 years of row crops.

Add a large amount of fertilizer, lime, and organic matter to obtain high yields of most row crops and forage crops. Leave all crop residue on the soil to help maintain the content of organic matter. These soils can be tilled only within a narrow range of moisture content. Artificial drainage is needed in many areas to dispose of excess water.

CAPABILITY UNIT IVe-11

This unit consists of deep, well drained or moderately well drained, moderately steep soils. The surface layer of these soils is fine sandy loam, and their subsoil is reddish sandy clay loam. Stratified beds of loam or sandy loam marine sediments are at a depth of 3 to 4 feet. In about 3 percent of the acreage, there is a compact, weakly developed fragipan at a depth of about 24 inches. The soils in this unit are—

Ora fine sandy loam, 10 to 15 percent slopes, eroded.
Ruston fine sandy loam, 10 to 15 percent slopes.
Ruston fine sandy loam, 10 to 15 percent slopes, eroded.
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes, eroded (Ruston soil only).

Runoff is medium to rapid, and the hazard of erosion is moderate to high. Water and roots penetrate easily. The soils have low available moisture capacity. They are very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy about 2½ percent of the county. About 15 percent of the acreage is in cultivated crops, 10 percent is in pasture, and 75 percent is in forest. Suitable crops are cotton, corn, sorghum, soybeans, small grains, truck crops, most grasses and legumes, peaches, and pecans. A suitable cropping system is 2 or more years of perennial sod crops, followed by 1 year of a row crop.

These soils need a large amount of fertilizer, lime, and organic matter for all crops. Good tilth is difficult to maintain. Therefore, all crop residue should be left on these soils. These soils can be tilled within a wide range of moisture content. A suitable cropping system and good use of crop residue will control runoff and erosion in cultivated areas. Contour tillage, terraces, grassed waterways, and field borders are also desirable. Stripcropping and diversion ditches are needed in some areas.

CAPABILITY UNIT IVe-111

In this unit are deep, moderately well drained and well drained, severely eroded, sloping soils. The surface layer is slightly sticky sandy clay loam or clay loam, and the subsoil is yellowish-red to dark-red, friable fine sandy clay loam to clay. Stratified beds of sandy loam to sandy clay loam marine sediments are at a depth of 3 to 6 feet. In about one-third of the acreage, the soils have a compact and brittle fragipan in the lower part of the subsoil. The soils in this unit are—

Greenville clay loam, 2 to 10 percent slopes, severely eroded.
Ora sandy clay loam, 6 to 10 percent slopes, severely eroded.
Ruston sandy clay loam, 6 to 10 percent slopes, severely eroded.

Runoff is medium to rapid, and the hazard of erosion is moderate to severe. Infiltration is slow, and permeability is moderate. Roots can penetrate the soils easily to a depth of several feet, except in areas where there is a fragipan. These soils are very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy less than 1 percent of the county. About 35 percent of the acreage is in cultivated crops, 15 percent is in pasture, and 50 percent is in trees. These soils are best suited to perennial grasses and legumes. Some areas are suited to corn, cotton, small grains, sorghum, soybeans, some truck crops, peaches, and pecans. A suitable cropping system is 3 or more years of a perennial sod crop, followed by 1 year of a row crop.

Good tilth is somewhat difficult to maintain, and tillage should be kept to a minimum. A large amount of fertilizer, lime, and organic matter should be added to these soils, and all crop residue should be left on the surface. To control runoff effectively, plant perennial sod crops, use contour tillage, and construct grassed waterways, field borders, and terraces where feasible. Stripcrop areas that are not suited to terraces, and build diversion ditches where needed.

CAPABILITY UNIT IVe-19

This unit consists of soils that are moderately deep and deep, moderately well drained or well drained, and sloping or moderately steep. The surface layer of these soils is fine sandy loam or loam, and their subsoil is reddish sandy clay loam to clay. In about 90 percent of the acreage, the soils are underlain by stratified beds of sandy loam to clay marine sediments, and in about 10 percent they are underlain by interbedded shale and sandstone at a depth of 2½ to 5 feet. The soils in this unit are—

Enders loam, 10 to 15 percent slopes.
Enders loam, 10 to 15 percent slopes, eroded.
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes (Shubuta soil only).
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes, eroded (Shubuta soil only).
Shubuta-Boswell complex, 6 to 10 percent slopes, eroded (both soils).
Shubuta-Boswell complex, 10 to 15 percent slopes, eroded (both soils).
Shubuta fine sandy loam, 10 to 15 percent slopes.
Shubuta fine sandy loam, 10 to 15 percent slopes, eroded.

Runoff is medium to rapid, and the hazard of erosion is moderate to severe. Water enters these soils at a moderate to rapid rate but moves slowly through the profile. The soils have low available moisture capacity. They are very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy approximately 4 percent of the county. About 5 percent of the acreage is in cultivated crops, 10 percent is in pasture, and 85 percent is in forest. Grasses and legumes are better suited to these soils than other crops, but in most areas the soils are also suited to corn, cotton, small grains, sorghum, soybeans, and some truck crops. If cultivated crops are grown, a good cropping system is 2 or more years of perennial sod crops and 1 year of a row crop.

Add a large amount of fertilizer, lime, and organic matter for all crops and pasture plants, and leave all crop residue on the soils. In some areas fragments of

rock on the surface make tillage difficult. The most effective way of controlling runoff is to grow perennial sod crops. To control erosion in cultivated areas, use contour tillage and install grassed waterways, field borders, and terraces where feasible.

CAPABILITY UNIT IVe-49

The soils in this unit are sloping and are shallow or moderately deep over bedrock. They are well drained to excessively drained. Their surface layer is loam or shaly silt loam. In about 85 percent of the acreage, the subsoil is reddish, firm silty clay that is 9 to 18 inches thick. In about 15 percent of the acreage, thin layers of shaly material underlie the surface layer. Depth to shale bedrock ranges from 15 to 36 inches. The soils in this unit are—

Montevallo shaly silt loam, 6 to 10 percent slopes.
Townley loam, 6 to 10 percent slopes.
Townley loam, 6 to 10 percent slopes, eroded.

Runoff is medium to rapid, and the hazard of erosion is moderate to severe. Water enters these soils at a moderate to slow rate and moves at a moderately slow or moderately rapid rate through the profile. The available moisture capacity is low or very low. These soils are very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy about 1½ percent of the county. About 20 percent of the acreage is in cultivated crops, 10 percent is in pasture, and 70 percent is in forest. Small grains, grasses, and legumes are better suited to the soils than other crops, but some areas are suited to cotton. If cultivated crops are grown, a good cropping system is 2 or more years of perennial sod crops and 1 year of a row crop.

Add a large amount of fertilizer, lime, and organic matter for all field crops and pasture plants, and leave all crop residue on the soils. The most effective way of controlling runoff is to grow perennial sod crops. To control erosion in cultivated areas, use contour tillage and install grassed waterways, field borders, and terraces.

CAPABILITY UNIT IVe-444

The soils of this unit are shallow or moderately deep over bedrock. They are gently sloping and sloping, well drained, and severely eroded. Their surface layer is clay loam or silty clay loam, and their subsoil is reddish silty clay. Shale bedrock is at a depth of 1½ to 5 feet. The soils in this unit are—

Enders clay loam, 6 to 10 percent slopes, severely eroded.
Townley silty clay loam, 2 to 6 percent slopes, severely eroded.

Runoff is medium to rapid, and the hazard of erosion is moderate to severe. Water enters these soils slowly and moves at a moderate to slow rate through the profile. The root zone is shallow to moderately deep, and the available moisture capacity is moderate to low. These soils are very strongly acid. Their natural fertility and content of organic matter are low.

These soils occupy only a small acreage. About 20 percent of the acreage is in cultivated crops, 15 percent is in pasture, and 65 percent is in forest. Perennial sod crops are better suited to these soils than other crops, but some areas are also suited to cotton, corn, and small grains. If the soils are cultivated, a cropping system that consists of 3 or more years of perennial sod crops, followed by 1 year of a row crop, should be used.

Add a large amount of fertilizer, lime, and organic matter for all field crops and pasture plants, and leave all crop residue on the soils. The most effective way of controlling runoff is to grow perennial sod crops. To control erosion in cultivated areas, use contour tillage and install grassed waterways, terraces, and field borders.

CAPABILITY UNIT IVw-11

This unit consists of deep, nearly level, poorly drained soils that are subject to flooding or ponding. The surface layer is uniform gray or mottled gray and brown loam or silt loam. The subsoil is gray or mottled gray, yellow, and brown fine sandy loam to clay. The soils in this unit are—

Bibb soils.
Mashulaville loam.
Myatt silt loam.

Runoff is slow or very slow, and erosion is not a hazard. These soils are subject to flooding or ponding, mainly late in winter and in spring, when water may stand on them for a long period. Floodwaters cause scouring in some areas. Water enters these soils at a moderate to slow rate and moves at a moderately slow to very slow rate through the profile. The available moisture capacity is moderate to high. The soils are strongly acid to extremely acid. Their natural fertility is low to moderate, and their content of organic matter is low.

These soils occupy approximately 7 percent of the county. About 10 percent of the acreage is in cultivated crops, 30 percent is in pasture, and 60 percent is in forest. Dallisgrass, bahiagrass, orchardgrass, fescue (fig. 17), white clover, Caley peas, and annual lespedeza are better suited to these soils than other crops. Under good management, however, some of the areas are suited to corn, sorghum, and soybeans.

If these soils are cultivated, a good cropping system is 3 or more years of perennial sod crops, followed by 1 year

Figure 17.—**Pasture of fescue and white clover on Myatt silt loam. Under good management yields as high as 130 cow-acre-days of grazing can be expected.**

of a row crop. It is better, however, to keep these soils in permanent vegetation.

Add a large amount of fertilizer, lime, and organic matter to improve tilth and to increase the yield of all crops and pasture plants. Prolonged wetness interferes with tillage. Therefore, in most areas, artificial drainage is needed to remove excess water.

CAPABILITY UNIT VIe-19

The soils in this unit are shallow to deep over marine sediments or shale bedrock. They are moderately steep and steep and are moderately well drained to excessively drained. The texture of the surface layer ranges from gravelly sandy loam to shaly silt loam. The soils have a reddish or yellowish subsoil of loamy, clayey, sandy, gravelly, or stony material. In about 90 percent of the acreage, the soils are underlain by stratified beds of marine sediments that range from gravel to clay in texture. In about 10 percent of the acreage, shale bedrock is at a depth of 12 to 36 inches. The soils in this unit are—

Guin gravelly sandy loam, 6 to 15 percent slopes.
Montevallo shaly silt loam, 10 to 15 percent slopes.
Ruston fine sandy loam, 15 to 25 percent slopes.
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes (Cuthbert soil only).
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes, eroded (Cuthbert soil only).
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes (Cuthbert soil only).
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes, eroded (Cuthbert soil only).
Ruston-Cuthbert association, 15 to 50 percent slopes (Ruston soils only).
Townley loam, 10 to 15 percent slopes, eroded.

Runoff is rapid, and the hazard of erosion is severe. In the eroded areas sheet erosion is more prevalent than other kinds of erosion, but the Ruston soils are susceptible to gullying. The gullies are generally deep, and the sides cave in readily. Infiltration is moderate to rapid, and permeability is slow or very slow to rapid. The root zone is shallow to thick. The available moisture capacity is low or very low. These soils are very strongly acid, and their natural fertility and content of organic matter are low.

These soils occupy about 8 percent of the county. About 4 percent of the acreage is in cultivated crops, 6 percent is in pasture, and 90 percent is in forest. Some areas are suited to bermudagrass, bahiagrass, kudzu, sericea lespedeza, and to the reseeding winter annuals, such as ball clover and crimson clover.

Add a large amount of fertilizer, lime, and organic matter for all crops. Keep tillage to a minimum because of the poor tilth. Erosion is a serious hazard, but it can be controlled by keeping these soils in permanent vegetation. Where the soils must be cultivated, use contour tillage. Construct grassed waterways if the soils are used for sod crops.

CAPABILITY UNIT VIe-111

The soils in this unit are shallow to deep over shale bedrock. They are sloping or moderately steep and are well drained or somewhat excessively drained. All of them are severely eroded. The texture of their surface layer ranges from silt loam to silty clay loam. In about two-thirds of the acreage, the subsoil is reddish sandy clay loam to silty clay. In the rest the subsoil is thin and consists of yellowish stony or clayey material. In about 40 percent of the acreage, the soils are underlain by stratified beds of loam or sandy loam marine sediments. In 60 percent of the area, shale bedrock is at a depth of 1 to 5 feet. The soils in this unit are—

Enders clay loam, 10 to 15 percent slopes, severely eroded.
Montevallo shaly silt loam, 6 to 10 percent slopes, severely eroded.
Ruston sandy clay loam, 10 to 15 percent slopes, severely eroded.
Townley silty clay loam, 6 to 10 percent slopes, severely eroded.
Townley silty clay loam, 10 to 15 percent slopes, severely eroded.

Runoff is rapid or very rapid, and the hazard of erosion is severe or very severe. Some areas contain shallow and deep gullies. Infiltration is slow, and permeability is moderate to rapid. The root zone of these soils is shallow to thick, and the available moisture capacity is low or very low.

These soils occupy about 2 percent of the county. About 5 percent of the acreage is in cultivated crops, 10 percent is in pasture, and 85 percent is in forest. Some areas are suited to bermudagrass, bahiagrass, sericea lespedeza, and other hardy perennials. Also, some of the reseeding winter annuals, such as rescuegrass, crimson clover, and ball clover, are suited.

The range of moisture content suitable for tillage is narrow because the tilth is poor. Keep tillage to a minimum, and add a large amount of fertilizer, lime, and organic matter to these soils to improve fertility and tilth. Erosion can be controlled by maintaining a cover of permanent vegetation. Where the soils must be cultivated, use contour tillage. Construct grassed waterways if the soils are used for sod crops.

CAPABILITY UNIT VIIe-19

The soils in this unit are steep and moderately deep or deep. They are moderately well drained or well drained. Their surface layer is sandy loam or fine sandy loam. Fragments of iron-crust rock are on the surface. The soils have a subsoil of reddish sandy to clayey material that is underlain at a depth of 2½ to 5 feet by stratified beds of sandy loam to clay marine sediments. The soils in this unit are—

Ruston-Cuthbert association, 15 to 50 percent slopes (Cuthbert soils only).
Shubuta-Boswell complex, 15 to 50 percent slopes (both soils).
Terrace escarpments.

Runoff is very rapid, and the hazard of erosion is severe or very severe. Infiltration is moderate to rapid, and permeability is moderately rapid to slow or very slow. The root zone is moderately thick or thick, and the available moisture capacity is low. These soils are very strongly acid. Their natural fertility and content of organic matter are low.

Nearly all of the acreage is in forest, but a small acreage is in cultivated crops or pasture. Some of these soils are suited to bermudagrass and bahiagrass. Crimson clover, ball clover, rescuegrass, ryegrass, and similar winter annuals are also suited.

Keep tillage to a minimum, and add a large amount of fertilizer, lime, and organic matter for all crops. Control erosion by keeping a cover of permanent vegetation on these soils. Where the soils must be cultivated, use contour tillage. Construct grassed waterways if these soils are used for sod crops.

CAPABILITY UNIT VIIe-49

The soils in this unit are steep and are shallow over bedrock. They are well drained to excessively drained and are slightly eroded to severely eroded. The surface layer of the Montevallo soils is shaly silt loam. The subsoil is thin and consists of yellowish, stony material. Shale bedrock is at a depth of 12 to 30 inches.

Three land types are included in this unit. Rock land consists of steep, stony, rough areas where sandstone outcrops and loose fragments of standstone and shale rock are on the surface. Sandy alluvial land is nearly level and consists of fresh sandy deposits along Luxapallila Creek. Gullied land consists of areas that have been dissected by gullies. In most of the gullied areas, the soil profile can no longer be distinguished, and unproductive soil material is exposed. The soils in this unit are—

Gullied land.
Montevallo shaly silt loam, 15 to 50 percent slopes.
Montevallo shaly silt loam, 10 to 15 percent slopes, severely eroded.
Montevallo shaly silt loam, 15 to 50 percent slopes, severely eroded.
Rock land.
Sandy alluvial land.

Runoff is very rapid, and the hazard of erosion is severe or very severe. Infiltration is moderate to slow, and permeability is moderate to rapid. The root zone of these soils is shallow, and the available moisture capacity is low or very low. The soils are strongly acid or very strongly acid, and their natural fertility and content of organic matter are low.

The soils of this unit occupy about 20 percent of the county. Nearly all of the acreage is in forest, and only a small part is used for pasture or cultivated crops. A few areas are suited to bermudagrass and bahiagrass. Also, some of the reseeding winter annuals, such as crimson clover, ball clover, ryegrass, and rescuegrass are suited in some areas. Add a large amount of fertilizer, lime, and organic matter to these soils, and construct grassed waterways if sod crops are to be grown. Where the soils must be cultivated, use contour tillage. Maintaining a cover of permanent vegetation is the most effective way of controlling erosion on these soils.

Estimated Yields

The estimated average yields per acre of the principal crops grown in Fayette County are shown in table 2 for each soil mapped. The estimates are based on (1) yields obtained in long-term experiments; (2) on yields of crops harvested on local farms; and (3) on estimates by agricultural workers who have had much experience with the crops and soils in this county. All estimates are based on an average amount of rainfall in the area over a long period of time, without irrigation. The yields in columns A can be expected under common management. Yields in columns B can be expected under the highest feasible level of management.

The management practices for which the yields under common management (columns A) were estimated are—

1. The amount of fertilizer added is usually not sufficient to produce maximum yields.
2. Lime and green-manure crops are seldom used.
3. Row crops are grown year after year over a long period of time.
4. The loss of soil and plant nutrients is not kept to a minimum.
5. Improved crop varieties and certified seed are not always used.
6. Overgrazing is common.
7. Weeds, insects, and diseases are not adequately controlled.
8. Recommended planting dates are not always observed.

The management practices for which the yields under improved management (columns B) were estimated are—

1. Fertilizer and lime are added according to the needs indicated by soil tests.
2. The seedbed is prepared and seeded properly.
3. Cropping systems suggested in the capability units are followed.
4. Water is used or is disposed of by terraces, grassed waterways, field borders, contour cultivation, or artificial drainage.
5. Good crop varieties and seeding mixtures are used at the proper planting rates.
6. Grazing is regulated.
7. Diseases, insects, and undesirable plants are controlled.
8. Recommended planting dates are observed.

Use of Soils for Woodland [3]

This section consists of three main parts. In the first part the soils of the county are placed in woodland suitability groups. Also, the growth of trees on these groups of soils and the limitations to growth are discussed. The second part suggests practices for the management of stands of pine in three size classes. The third part consists of yield data for well-stocked, unmanaged stands of loblolly, shortleaf, and Virginia pine.

Woodland Suitability Groups

The soils of Fayette County have been placed in woodland suitability groups on the basis of their suitability for wood crops. Each group consists of soils that are suitable for about the same kinds of trees, that require about the same management, and that have about the same potential productivity. Generally, pine is better suited to the soils of this county than other trees, but some hardwoods are well suited to the soils of a few of the woodland groups.

Table 3 gives the site index of the soils in each group for loblolly, shortleaf, and Virginia pines, and ratings for seedling mortality, plant competition, equipment limitations, and the hazards of erosion and windthrow. It also names the trees to favor in the stand and the kind of trees to use for planting. The site index of a soil for a specified kind of tree is the average height of the dominant trees in the stand at 50 years of age. The site index for hardwoods is not given.

[3] Prepared with the assistance of M. A. PETERS, woodland conservationist, and O. R. CARTER, soil scientist, Soil Conservation Service.

TABLE 2.—*Expected average yields per acre of principal crops under two levels of management*

[Yields in columns A are to be expected under common management; yields in columns B are to be expected under the highest feasible level of management. Dashed lines indicate that the soil is not suited to the crop specified, or that yields were not estimated, because soils of different capabilities are too intermingled for their yield potential to be estimated accurately]

Symbol	Soil	Row crops				Hay crops				Small grain		Pasture			
		Corn		Cotton		Sericea lespedeza		Coastal bermudagrass		Oats		Fescue		Bahiagrass	
		A	B	A	B	A	B	A	B	A	B	A	B	A	B
		Bu.	*Bu.*	*Lb.*	*Lb.*	*Tons*	*Tons*	*Tons*	*Tons*	*Bu.*	*Bu.*	*Cow-acre-days* [1]	*Cow-acre-days* [1]	*Cow-acre-days* [1]	*Cow-acre-days* [1]
At	Atkins soils, local alluvium	30	60							25	40	125	200	120	180
Bb	Bibb soils											80	110	90	140
Bc	Bibb soils, local alluvium											90	120	100	150
EdB	Enders loam, 2 to 6 percent slopes	40	70	450	775	2.0	3.0	2.0	3.8	40	75	105	155	125	180
EdB2	Enders loam, 2 to 6 percent slopes, eroded	35	65	425	700	1.8	2.8	1.9	3.6	35	70	100	150	120	175
EcB3	Enders clay loam, 2 to 6 percent slopes, severely eroded	25	50	350	550	1.0	2.0	1.0	2.7	30	60	80	120	80	140
EdC	Enders loam, 6 to 10 percent slopes	33	63	400	675	1.6	2.6	1.8	3.4	35	68	95	140	115	165
EdC2	Enders loam, 6 to 10 percent slopes, eroded	30	58	375	650	1.4	2.4	1.7	3.2	32	64	90	135	110	160
EcC3	Enders clay loam, 6 to 10 percent slopes, severely eroded	20	40	240	450	1.0	1.8	1.0	2.4	25	55	70	110	70	130
EdD	Enders loam, 10 to 15 percent slopes	27	55	350	635	1.2	2.3	1.6	3.0	28	60	85	125	105	155
EdD2	Enders loam, 10 to 15 percent slopes, eroded	25	50	325	600	1.0	2.2	1.5	2.8	25	55	80	120	100	150
EcD3	Enders clay loam, 10 to 15 percent slopes, severely eroded					1.0	1.6	1.0	2.2			60	100	60	120
GmA	Greenville loam, 0 to 2 percent slopes	45	75	600	840	2.5	3.4	4.0	5.5	50	75	100	170	140	200
GmB2	Greenville loam, 2 to 6 percent slopes, eroded	40	70	500	750	2.2	3.2	3.5	5.3	45	70	95	165	130	190
GmC2	Greenville loam, 6 to 10 percent slopes, eroded	35	60	400	675	2.0	3.0	3.0	4.2	35	60	90	150	115	180
GcC3	Greenville clay loam, 2 to 10 percent slopes, severely eroded	25	45	300	500	1.1	2.3	1.5	2.8	25	50	70	110	90	140
GnD	Guin gravelly sandy loam, 6 to 15 percent slopes							1.0	2.0					70	100
Gu	Gullied land														
HaB2	Hanceville loam, 2 to 6 percent slopes, eroded	40	75	500	770	2.2	3.2	2.8	5.0	50	80	100	165	130	190
Ik	Iuka silt loam	50	90	400	625	2.5	3.2	3.2	5.0	50	75	115	200	150	230
Io	Iuka-Ochlockonee complex, local alluvium [2]	50	90	400	675	2.5	3.2	3.2	5.0	50	75	115	200	150	230
LdB	Leadvale loam, 2 to 6 percent slopes	40	65	425	700	2.0	3.0	2.0	3.5	45	75	100	160	100	180
MaC2	Magnolia fine sandy loam, 2 to 10 percent slopes, eroded	40	65	450	700	2.1	3.1	3.4	5.0	35	65	90	150	120	185
Mc	Mantachie fine sandy loam	45	85	300	625	2.3	3.0	3.2	4.7	50	75	130	185	150	230
Mh	Mantachie soils, local alluvium	45	85	350	650	2.3	3.0	3.2	4.7	50	75	130	185	150	230
Mk	Mantachie, Leaf, and Iuka soils [2 3]											90	140	100	150
Mm	Mashulaville loam											90	130	100	140
MoC	Montevallo shaly silt loam, 6 to 10 percent slopes			155	350					20	40			80	110
MoC3	Montevallo shaly silt loam, 6 to 10 percent slopes, severely eroded													45	90
MoD	Montevallo shaly silt loam, 10 to 15 percent slopes													60	100
MoD3	Montevallo shaly silt loam, 10 to 15 percent slopes, severely eroded													40	80
MoE	Montevallo shaly silt loam, 15 to 50 percent slopes														
MoE3	Montevallo shaly silt loam, 15 to 50 percent slopes, severely eroded														
My	Myatt silt loam											70	120	90	130
Oc	Ochlockonee loam	50	90	400	725	2.5	3.2	3.2	5.0	50	75	115	200	145	230
Od	Ochlockonee sandy loam	35	68	300	585	2.0	2.6	2.5	4.0	40	65	85	150	110	190
OfB2	Ora fine sandy loam, 2 to 6 percent slopes, eroded	37	55	350	600	2.0	2.8	2.8	3.8	37	55	80	130	100	155
OfC	Ora fine sandy loam, 6 to 10 percent slopes	34	50	325	500	1.8	2.6	2.0	3.2	34	50	75	120	90	145

See footnotes at end of table.

TABLE 2.—*Expected average yields per acre of principal crops under two levels of management*—Continued

Symbol	Soil	Row crops				Hay crops				Small grain		Pasture			
		Corn		Cotton		Sericea lespedeza		Coastal bermuda-grass		Oats		Fescue		Bahia-grass	
		A	B	A	B	A	B	A	B	A	B	A	B	A	B
		Bu.	*Bu.*	*Lb.*	*Lb.*	*Tons*	*Tons*	*Tons*	*Tons*	*Bu.*	*Bu.*	*Cow-acre-days* [1]	*Cow-acre-days* [1]	*Cow-acre-days* [1]	*Cow-acre-days* [1]
OfC2	Ora fine sandy loam, 6 to 10 percent slopes, eroded	30	45	300	450	1.5	2.4	1.8	2.8	30	45	70	110	85	135
OrC3	Ora sandy clay loam, 6 to 10 percent slopes, severely eroded	22	39	275	425	1.1	2.1	1.3	2.4	25	40	55	100	70	135
OfD2	Ora fine sandy loam, 10 to 15 percent slopes, eroded	25	40	275	400	1.2	2.2	1.4	2.5	25	40	60	100	75	125
Pb	Pheba loam											75	115	90	140
Ph	Philo soils, local alluvium	50	90	500	800	2.0	3.0	3.0	5.0	45	70	130	220	130	230
PrA	Prentiss fine sandy loam, 0 to 2 percent slopes	35	52	300	500	2.0	2.8	2.0	3.0	35	50	75	125	90	150
PrB2	Prentiss fine sandy loam, 2 to 6 percent slopes, eroded	35	52	300	500	2.0	2.7	2.7	3.9	37	55	70	120	85	140
Rd	Rock land														
RfA	Ruston fine sandy loam, 0 to 2 percent slopes	40	70	500	775	2.5	3.6	3.5	5.0	45	70	110	160	110	190
RfB	Ruston fine sandy loam, 2 to 6 percent slopes	35	60	425	700	2.2	3.2	3.1	4.4	35	65	95	140	105	170
RfB2	Ruston fine sandy loam, 2 to 6 percent slopes, eroded	33	57	425	650	2.2	3.2	3.0	4.0	35	60	90	135	105	160
RfC	Ruston fine sandy loam, 6 to 10 percent slopes	30	55	375	600	2.0	3.0	2.2	3.5	33	55	85	125	100	155
RfC2	Ruston fine sandy loam, 6 to 10 percent slopes, eroded	28	52	350	550	2.0	3.0	2.1	3.4	30	55	80	120	90	150
RsC3	Ruston sandy clay loam, 6 to 10 percent slopes, severely eroded	20	40	250	450	1.0	2.2	1.5	2.8	30	50	75	110	90	135
RfD	Ruston fine sandy loam, 10 to 15 percent slopes	25	47	325	525	1.8	2.8	2.8	2.0	30	48	75	115	85	140
RfD2	Ruston fine sandy loam, 10 to 15 percent slopes, eroded	25	45	300	500	1.6	2.6	1.8	3.0	30	45	70	100	80	130
RsD3	Ruston sandy clay loam, 10 to 15 percent slopes, severely eroded					1.0	1.8	1.2	2.4			65	95	70	105
RfE	Ruston fine sandy loam, 15 to 25 percent slopes													70	120
RxC	Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes [2] [4]					1.4	2.4							70	120
RxC2	Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes, eroded [2] [4]					1.3	2.3							65	110
RxD	Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes [2]					1.2	2.2							60	100
RxD2	Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes, eroded [2]					1.1	2.0							55	90
RtE	Ruston-Cuthbert association, 15 to 50 percent slopes														
Sa	Sandy alluvial land														
SbA	Savannah loam, 0 to 2 percent slopes	35	50	300	550	2.0	2.8	2.0	3.0	35	50	75	125	95	145
SbB	Savannah loam, 2 to 6 percent slopes	35	50	300	550	2.0	2.8	2.7	3.6	35	50	70	120	90	135
SbB2	Savannah loam, 2 to 6 percent slopes, eroded	30	45	275	500	2.0	2.7	2.7	3.4	35	50	65	110	85	130
SbC2	Savannah loam, 6 to 10 percent slopes, eroded	25	45	275	450	1.5	2.4	1.8	3.0	30	45	60	100	80	125
Sc	Sequatchie loam	50	90	420	840	2.5	3.2	3.0	5.2	50	80	120	180	130	220
SfB2	Shubuta fine sandy loam, 2 to 6 percent slopes, eroded	25	35	300	500	2.0	2.8	2.4	3.8	30	50	60	100	90	130
SfC	Shubuta fine sandy loam, 6 to 10 percent slopes	20	30	275	470	1.8	2.6	2.2	3.4	28	46	50	95	85	125
SfC2	Shubuta fine sandy loam, 6 to 10 percent slopes, eroded	22	27	250	440	1.5	2.4	2.0	3.0	25	42	50	90	80	120
SfD	Shubuta fine sandy loam, 10 to 15 percent slopes			225	400	1.2	2.2	1.6	2.6	22	38	45	85	80	115
SfD2	Shubuta fine sandy loam, 10 to 15 percent slopes, eroded			200	375	1.0	2.0	1.2	2.2	20	35	45	80	75	110
ShC2	Shubuta-Boswell complex, 6 to 10 percent slopes, eroded [2]			200	350	1.5	2.3	1.5	2.8	20	35	50	90	80	120

See footnotes at end of table.

TABLE 2.—*Expected average yields per acre of principal crops under two levels of management*—Continued

Symbol	Soil	Row crops				Hay crops				Small grain		Pasture			
		Corn		Cotton		Sericea lespedeza		Coastal bermuda-grass		Oats		Fescue		Bahia-grass	
		A	B	A	B	A	B	A	B	A	B	A	B	A	B
		Bu.	*Bu.*	*Lb.*	*Lb.*	*Tons*	*Tons*	*Tons*	*Tons*	*Bu.*	*Bu.*	*Cow-acre-days* [1]	*Cow-acre-days* [1]	*Cow-acre-days* [1]	*Cow-acre-days* [1]
ShD2	Shubuta-Boswell complex, 10 to 15 percent slopes, eroded [2]													60	90
ShE	Shubuta-Boswell complex, 15 to 50 percent slopes [2]													30	65
Sn	Stendal soils, local alluvium	45	85					2. 5	4. 5	40	65	140	220	130	210
StA	Stough loam, 0 to 2 percent slopes	30	60									75	120	100	150
Tc	Terrace escarpments														
TmB2	Townley loam, 2 to 6 percent slopes, eroded	25	50	300	600	1. 0	2. 3	1. 5	3. 0	30	50			90	150
TnB3	Townley silty clay loam, 2 to 6 percent slopes, severely eroded	15	35	200	400	1. 0	2. 0	1. 0	2. 0					60	100
TmC	Townley loam, 6 to 10 percent slopes			250	475	1. 0	2. 0	1. 3	2. 8	25	45			80	140
TmC2	Townley loam, 6 to 10 percent slopes, eroded			225	425	1. 0	1. 8	1. 2	2. 5	25	45			70	130
TnC3	Townley silty clay loam, 6 to 10 percent slopes, severely eroded													50	90
TmD2	Townley loam, 10 to 15 percent slopes, eroded													60	120
TnD3	Townley silty clay loam, 10 to 15 percent slopes, severely eroded													45	80
Ty	Tyler loam									25	40	85	120	100	150

[1] Cow-acre-days is the number of animal units carried per acre multiplied by the number of days during the year that animals can be grazed without injury to the pasture. For example, a soil that provides grazing for one animal unit per acre for 360 days of the year rates 360; a soil that provides grazing for one animal unit on 2 acres for 180 days rates 90; and a soil that provides grazing for one animal unit on 4 acres for 200 days rates 50. An animal unit consists of one cow, steer, or horse, five hogs, seven sheep, or seven goats.

[2] Yield figure represents the approximate average yield expected from the component soils. Estimates are less reliable than for individual soil types or soil phases.

[3] Available data indicate that under average management the yield of fescue or bahiagrass on the Leaf soils is about 90 cow-acre-days. Under improved management this yield can be increased to about 130 cow-acre-days for fescue and 140 cow-acre-days for bahiagrass.

[4] Limited data indicate that under average management, a yield of about 1 ton of lespedeza and 1½ tons of Coastal bermudagrass can be expected on uneroded Cuthbert soils where the slope is 6 to 10 percent. Under improved management the yield can be increased to 1½ tons of lespedeza and 2 tons of bermudagrass. On an eroded Cuthbert soil that has slopes of 6 to 10 percent, the yield under average management is about nine-tenths of a ton of lespedeza and 1⅘ tons of bermudagrass. Under improved management, the yield can be increased to about 1⅘ tons of lespedeza and 1⅘ tons of bermudagrass.

Seedling mortality refers to the expected degree of mortality. Even when healthy seedlings of a suitable tree are correctly planted or occur naturally in adequate numbers, some of them will not survive if characteristics of the soil are unfavorable. The ratings given in the discussions of the woodland groups and in table 3 are for trees in a normal environment. Mortality is *slight* if not more than 25 percent of the planted seedlings die or if the trees ordinarily regenerate naturally in places where there are enough seeds. It is moderate if 25 to 50 percent of the planted seedlings die or if the trees do not regenerate naturally in numbers needed for adequate restocking. In some places replanting to fill open spaces will be necessary. Mortality is *severe* if more than 50 percent of the planted seedlings die or if the trees do not ordinarily reseed naturally in places where there are enough seeds. If mortality is severe, plant seedlings where the seeds do not grow, prepare a special seedbed, and use good methods of planting to assure that there will be a full stand of trees.

Plant competition refers to the degree that undesirable plants invade the woodlot when openings are made in the canopy. Competition is *slight* if unwanted plants are not a special problem. It is *moderate* if the invaders delay, but do not prevent, the establishment of a normal, fully stocked stand. Generally, seedbed preparation is not needed, and simple methods can be used to prevent undesirable plants from invading. Competition is *severe* if the trees cannot regenerate naturally. Where competition is severe, carefully prepare the site and use management that includes controlled burning, spraying with chemicals, and girdling.

Equipment limitations differ according to the degree that soil characteristics restrict or prevent the use of forestry equipment. Different soils may require different kinds of equipment or methods of operation, or the season when equipment may be used may differ for different soils.

Drainage, slope, the number and size of stones, and other soil characteristics may restrict the use of equipment. Limitations may be seasonal, or they may apply throughout the year. Limitations are *slight* if there are no restrictions on the type of equipment or on the time of year that equipment can be used. They are *moderate* where the slopes are moderately steep, or where the use of heavy equipment is restricted by wetness in winter and early in spring. In some areas there may be a firm, clayey subsoil that is excessively wet, and in some places the subsoil has been exposed by erosion. Equipment limitations are *severe* if special equipment is needed, if the use of such equipment is greatly restricted, or if the equipment severely damages the roots of trees and the structure and stability of the soils. Equipment limitations are severe on moderately steep and steep soils that are stony and have rock outcrops. They are also severe on wet bottom lands and low terraces in winter or early in spring.

Erosion hazard refers to the risk of erosion on well-managed woodland. The hazard of erosion is *slight* if only a small loss of soil material is expected. Generally, soils are only slightly eroded if the slope is between 0 and 2 percent and if runoff is slow or very slow. The hazard of erosion is *moderate* where a moderate loss of soil material is expected, if runoff is not controlled, and if the cover of vegetation is not adequate for protection. It is *severe* where steep slopes, rapid runoff, slow infiltration and permeability, and past erosion make the soil susceptible to severe erosion.

Windthrow hazard depends on the development of roots and on the ability of the soils to hold trees firmly. The hazard is *slight* if the trees are firmly rooted and will not fall over in a normal wind. It is *moderate* if roots develop enough to hold the trees firmly, except when the soil is excessively wet and the wind is strong. It is *severe* if the roots do not provide enough stability to prevent the trees from blowing over when they are not protected by other trees.

WOODLAND SUITABILITY GROUP 1

This group consists of deep, moderately well drained or well drained soils that have a fragipan at a depth of 22 to 32 inches. The soils have a moderately deep root zone. Their available moisture capacity is low.

Loblolly pine is better suited to these soils than other kinds of trees. The site index for loblolly pine ranges from 83 to 93. Yellow-poplar, sweetgum, red oak, and white oak are well-suited hardwoods. Seedling mortality is slight in most places, and plant competition is moderate. The fragipan causes these soils to be wet in winter and early in spring; consequently, the soils have a moderate equipment limitation. The erosion hazard is slight on the gentle slopes and moderate on the steep slopes. The fragipan causes a moderate windthrow hazard.

The soils in this group are well suited to woodland grazing if the trees are dominantly loblolly or shortleaf pine and if an open or sparse forest canopy is maintained. In most areas proper management of the stand of timber will permit enough native grasses to grow so that some grazing is provided. Preferred grazing plants are little bluestem, switchgrass, deerstongue, perennial lespedeza, and perennial tickclover. Overgrazing of the woodland encourages growth of slender bluestem, goldaster, low and beaked panicum, and three-awn, which are less desirable than the preferred grasses. If grazing is extremely heavy, undesirable annual weeds and grasses invade and take over as ground cover in the grazed area. The acreage required for each animal depends upon the condition and type of forage and on the density of the stand of timber and other plant cover. The stocking rate should be controlled to encourage growth of the preferred plants.

WOODLAND SUITABILITY GROUP 2

In this group are deep, well-drained to poorly drained soils that have a medium-textured to fine-textured subsoil. The soils have a seasonally high water table, and in places along streams they are subject to flooding.

Loblolly pine is better suited to these soils than other kinds of trees. The site index for loblolly pine ranges from 79 to 94. Yellow-poplar, sweetgum, red oak, and white oak are well-suited hardwoods. Seedling mortality is slight. Plant competition is severe because of the high available moisture capacity and the moderate fertility. Equipment limitations are severe because of the seasonally high water table.

WOODLAND SUITABILITY GROUP 3

This group consists of deep, well-drained soils that have a medium-textured to moderately fine textured subsoil. The available moisture capacity is low to moderate, and permeability is moderate to rapid.

Loblolly pine is better suited to these soils than other kinds of trees. Shortleaf pine is undesirable, because it is susceptible to littleleaf disease. Normal specimens of shortleaf pine were not found for measurement purposes. The site index for loblolly pine ranges from 68 to 80. Yellow-poplar is a well-suited hardwood. Seedling mortality is slight on these soils, except on the steeper Ruston sandy clay loams, where it is moderate. Plant competition is moderate. Equipment limitations are slight on the Greenville soils and on the gently sloping Ruston soils, but they are moderate on some of the steep soils.

The soils in this group are well suited to woodland grazing if the trees are dominantly loblolly or shortleaf pine and if an open or sparse forest canopy is maintained. In most areas proper management of the stand of timber will permit enough native grasses to grow so that some grazing is provided. Preferred plants are little bluestem, switchgrass, deerstongue, perennial lespedeza, and perennial tickclover. Overgrazing of the woodland encourages growth of slender bluestem, goldaster, low and beaked panicum, and three-awn, which are less desirable than the preferred grasses. If grazing is extremely heavy, undesirable annual weeds and grasses invade and take over as ground cover in the grazed areas. The acreage required for each animal depends upon the condition and type of grasses and the density of the stand of timber and other plant cover. The stocking rate should be controlled to encourage growth of the preferred plants.

WOODLAND SUITABILITY GROUP 4

This group consists of deep, well drained or moderately well drained soils that have a medium-textured to fine-textured, tough or friable subsoil. The available moisture capacity is low. Permeability ranges from moderate to rapid in the Ruston soils to very slow in the Boswell soils.

TABLE 3.—*Woodland suitability groups of soils, their potential productivity,*

[Dashed lines indicate

Woodland suitability groups	Seedling mortality	Plant competition	Equipment limitations	Hazard of—	
				Erosion	Windthrow
Group 1: Deep, moderately well drained or well drained soils that have a fragipan at a depth of 22 to 32 inches.					
Ora fine sandy loam, 2 to 6 percent slopes, eroded (OfB2).	Slight	Moderate	Moderate	Slight	Moderate
Ora fine sandy loam, 6 to 10 percent slopes (OfC)	Slight	Moderate	Moderate	Moderate	Moderate
Ora fine sandy loam, 6 to 10 percent slopes, eroded (OfC2).	Slight	Moderate	Moderate	Moderate	Moderate
Ora fine sandy loam, 10 to 15 percent slopes, eroded (OfD2).	Slight	Moderate	Moderate	Moderate	Moderate
Ora sandy clay loam, 6 to 10 percent slopes, severely eroded (OrC3).	Moderate	Moderate	Moderate	Moderate	Moderate
Group 2: Deep, well-drained to poorly drained soils that have a medium-textured to fine-textured subsoil.					
Bibb soils (Bb)	Slight	Severe	Severe	Slight	Slight
Bibb soils, local alluvium (Bc)	Slight	Severe	Severe	Slight	Slight
Iuka silt loam (Ik)	Slight	Severe	Severe	Slight	Slight
Iuka-Ochlockonee complex, local alluvium (Io)	Slight	Severe	Severe	Slight	Slight
Mantachie, Leaf, and Iuka soils (Leaf soils only) (Mk).	Slight	Severe	Severe	Slight	Slight
Mashulaville loam (Mm)	Slight	Severe	Severe	Slight	Slight
Mantachie fine sandy loam (Mc)	Slight	Severe	Severe	Slight	Slight
Mantachie soils, local alluvium (Mh)	Slight	Severe	Severe	Slight	Slight
Myatt silt loam (My)	Slight	Severe	Severe	Slight	Slight
Ochlockonee loam (Oc)	Slight	Severe	Severe	Slight	Slight
Ochlockonee sandy loam (Od)	Slight	Severe	Severe	Slight	Slight
Stough loam, 0 to 2 percent slopes (StA)	Slight	Severe	Severe	Slight	Slight
Group 3: Deep, well-drained soils that have a medium-textured or moderately fine textured subsoil.					
Greenville loam, 0 to 2 percent slopes (GmA)	Slight	Moderate	Slight	Slight	Slight
Greenville loam, 2 to 6 percent slopes, eroded (GmB2).	Slight	Moderate	Slight	Slight	Slight
Greenville loam, 6 to 10 percent slopes, eroded (GmC2).	Slight	Moderate	Slight	Moderate	Slight
Greenville clay loam, 2 to 10 percent slopes, severely eroded (GcC3).	Slight	Moderate	Slight	Moderate	Slight
Magnolia fine sandy loam, 2 to 10 percent slopes, eroded (MaC2).	Slight	Moderate	Slight	Moderate	Slight
Ruston fine sandy loam, 0 to 2 percent slopes (RfA).	Slight	Moderate	Slight	Slight	Slight
Ruston fine sandy loam, 2 to 6 percent slopes (RfB).	Slight	Moderate	Slight	Slight	Slight
Ruston fine sandy loam, 2 to 6 percent slopes, eroded (RfB2).	Slight	Moderate	Slight	Slight	Slight
Ruston fine sandy loam, 6 to 10 percent slopes, (RfC).	Slight	Moderate	Slight	Moderate	Slight
Ruston fine sandy loam, 6 to 10 percent slopes, eroded (RfC2).	Slight	Moderate	Slight	Moderate	Slight
Ruston fine sandy loam, 10 to 15 percent slopes (RfD).	Slight	Moderate	Slight	Moderate	Slight
Ruston fine sandy loam, 10 to 15 percent slopes, eroded (RfD2).	Slight	Moderate	Slight	Moderate	Slight
Ruston fine sandy loam, 15 to 25 percent slopes (RfE).	Slight	Moderate	Moderate	Severe	Slight
Ruston sandy clay loam, 6 to 10 percent slopes, severely eroded (RsC3).	Moderate	Moderate	Slight	Moderate	Slight
Ruston sandy clay loam, 10 to 15 percent slopes, severely eroded (RsD3).	Moderate	Moderate	Moderate	Severe	Slight

See footnotes at end of table.

and ratings for limitations and hazards affecting management

data are not available]

Potential productivity (site index)[1]			Species suitability	
Loblolly pine	Shortleaf pine	Virginia pine	Favor in the stand	Use for planting
87 (83–93)	----------	----------	Loblolly pine, slash pine, yellow-poplar, sweetgum, and red oak.	Loblolly pine, slash pine, Virginia pine, longleaf pine, and yellow-poplar.
86 (79–94)	----------	----------	Loblolly pine, slash pine, yellow-poplar, sweetgum, red oak, and white oak.	Loblolly pine, slash pine, and yellow-poplar.
74 (68–80)	----------	----------	Loblolly pine, slash pine, longleaf pine, and yellow-poplar.	Loblolly pine, slash pine, longleaf pine, and yellow-poplar.

TABLE 3.—*Woodland suitability groups of soils, their potential productivity,*

[Dashed lines indicate

Woodland suitability groups	Seedling mortality	Plant competition	Equipment limitations	Hazard of—	
				Erosion	Windthrow
Group 4: Deep, well drained to moderately well drained soils that have a medium-textured to fine-textured subsoil.					
Ruston-Cuthbert association, 15 to 50 percent slopes (RtE).[2]	Slight	Moderate	Moderate	Severe	Slight
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes (RxC).[2]	Slight	Moderate	Slight	Moderate	Slight
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes, eroded (RxC2).[2]	Slight	Moderate	Slight	Moderate	Slight
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes (RxD).[2]	Slight	Moderate	Slight	Moderate	Slight
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes, eroded (RxD2).[2]	Slight	Moderate	Slight	Moderate	Slight
Shubuta fine sandy loam, 2 to 6 percent slopes, eroded (SfB2).	Slight	Moderate	Moderate	Moderate	Slight
Shubuta fine sandy loam, 6 to 10 percent slopes (SfC).	Slight	Moderate	Moderate	Moderate	Slight
Shubuta fine sandy loam, 6 to 10 percent slopes, eroded (SfC2).	Slight	Moderate	Moderate	Moderate	Slight
Shubuta fine sandy loam, 10 to 15 percent slopes (SfD).	Slight	Moderate	Moderate	Moderate	Slight
Shubuta fine sandy loam, 10 to 15 percent slopes, eroded (SfD2).	Slight	Moderate	Moderate	Moderate	Slight
Shubuta-Boswell complex, 6 to 10 percent slopes, eroded (ShC2).	Slight	Moderate	Slight	Moderate	Slight
Shubuta-Boswell complex, 10 to 15 percent slopes, eroded (ShD2).	Slight	Moderate	Slight	Moderate	Slight
Shubuta-Boswell complex, 15 to 50 percent slopes (ShE).	Slight	Moderate	Moderate	Severe	Slight
Group 5: Deep, moderately well drained to somewhat poorly drained soils that have a fragipan at a depth of 14 to 30 inches.					
Pheba loam (Pb)	Slight	Severe	Moderate	Slight	Moderate
Prentiss fine sandy loam, 0 to 2 percent slopes (PrA).	Slight	Moderate	Moderate	Slight	Moderate
Prentiss fine sandy loam, 2 to 6 percent slopes, eroded (PrB2).	Slight	Moderate	Moderate	Slight	Moderate
Savannah loam, 0 to 2 percent slopes (SbA)	Slight	Moderate	Moderate	Slight	Moderate
Savannah loam, 2 to 6 percent slopes (SbB)	Slight	Moderate	Moderate	Slight	Moderate
Savannah loam, 2 to 6 percent slopes, eroded (SbB2).	Slight	Moderate	Moderate	Slight	Moderate
Savannah loam, 6 to 10 percent slopes, eroded (SbC2).	Slight	Moderate	Moderate	Moderate	Moderate
Group 6: Deep, excessively drained, gravelly soils.					
Guin gravelly sandy loam, 6 to 15 percent slopes (GnD).	Moderate	Moderate	Slight	Slight	Slight
Group 7: Deep, moderately well drained to poorly drained soils that are medium textured.					
Atkins soils, local alluvium (At)	Slight	Severe	Moderate	Slight	Slight
Philo soils, local alluvium (Ph)	Slight	Severe	Moderate	Slight	Slight
Stendal soils, local alluvium (Sn)	Slight	Severe	Moderate	Slight	Slight
Group 8: Deep, moderately well drained to somewhat poorly drained soils on foot slopes and stream terraces.					
Leadvale loam, 2 to 6 percent slopes (LdB)	Slight	Moderate	Moderate	Slight	Moderate
Tyler loam (Ty)	Slight	Moderate	Moderate	Slight	Moderate

See footnotes at end of table.

and ratings for limitations and hazards affecting management—Continued

data are not available]

Potential productivity (site index)[1]			Species suitability	
Loblolly pine	Shortleaf pine	Virginia pine	Favor in the stand	Use for planting
72 (64–79)	51 (42–60))		Loblolly pine, slash pine, Virginia pine, shortleaf pine, and yellow-poplar.	Loblolly pine, slash pine, Virginia pine, and yellow-poplar.
69 (63–73)	56 (48–58)	59 (55–62)	Loblolly pine, slash pine, Virginia pine, longleaf pine, and yellow-poplar.	Loblolly pine, slash pine, Virginia pine, longleaf pine, and yellow-poplar.
63 (59–67)	49 (48–53)	59 (52–62)	Loblolly pine, slash pine, Virginia pine, longleaf pine, and yellow-poplar.	Loblolly pine, slash pine, Virginia pine, longleaf pine, and yellow-poplar
83 (72–94)	74		Loblolly pine, yellow-poplar, sweetgum, red oak, and white oak.	Loblolly pine and yellow-poplar.
80 (68–88)			Loblolly pine, yellow-poplar, and Virginia pine.	Loblolly pine, yellow-poplar, and Virginia pine.

TABLE 3.—*Woodland suitability groups of soils, their potential productivity,*

[Dashed lines indicate

Woodland suitability groups	Seedling mortality	Plant competition	Equipment limitations	Hazard of—	
				Erosion	Windthrow
Group 9: Deep to moderately deep, well-drained soils on uplands and stream terraces.					
Enders loam, 2 to 6 percent slopes (EdB)	Slight	Moderate	Slight	Slight	Slight
Enders loam, 2 to 6 percent slopes, eroded (EdB2)	Slight	Moderate	Slight	Slight	Slight
Enders loam, 6 to 10 percent slopes (EdC)	Slight	Moderate	Slight	Moderate	Slight
Enders loam, 6 to 10 percent slopes, eroded (EdC2)	Slight	Moderate	Slight	Moderate	Slight
Enders loam, 10 to 15 percent slopes (EdD)	Slight	Moderate	Slight	Moderate	Slight
Enders loam, 10 to 15 percent slopes, eroded (EdD2)	Slight	Moderate	Slight	Moderate	Slight
Hanceville loam, 2 to 6 percent slopes, eroded (HaB2)	Slight	Moderate	Slight	Slight	Slight
Sequatchie loam (Sc)	Slight	Severe	Slight	Slight	Slight
Group 10: Moderately deep, well-drained soils that are severely eroded.					
Enders clay loam, 2 to 6 percent slopes, severely eroded (EcB3).	Moderate	Moderate	Slight	Moderate	Slight
Enders clay loam, 6 to 10 percent slopes, severely eroded (EcC3).	Moderate	Moderate	Slight	Moderate	Slight
Enders clay loam, 10 to 15 percent slopes, severely eroded (EcD3).	Moderate	Moderate	Slight	Moderate	Slight
Group 11: Shallow to moderately deep soils that are well drained.					
Townley loam, 2 to 6 percent slopes, eroded (TmB2).	Slight	Moderate	Slight	Slight to moderate.	Moderate
Townley silty clay loam, 2 to 6 percent slopes, severely eroded (TnB3).	Slight	Moderate	Slight	Moderate	Moderate
Townley loam, 6 to 10 percent slopes (TmC)	Slight	Moderate	Slight	Moderate	Moderate
Townley loam, 6 to 10 percent slopes, eroded (TmC2).	Slight	Moderate	Slight	Moderate	Moderate
Townley silty clay loam, 6 to 10 percent slopes, severely eroded (TnC3).	Slight	Moderate	Slight	Moderate	Moderate
Townley loam, 10 to 15 percent slopes, eroded (TmD2).	Slight	Moderate	Slight	Moderate	Moderate
Townley silty clay loam, 10 to 15 percent slopes, severely eroded (TnD3).	Slight	Moderate	Slight	Moderate	Moderate
Group 12: Shallow or very shallow soils that are excessively drained.					
Montevallo shaly silt loam, 6 to 10 percent slopes (MoC).	Slight	Moderate	Slight	Moderate	Moderate
Montevallo shaly silt loam, 6 to 10 percent slopes, severely eroded (MoC3).	Slight	Moderate	Slight	Moderate	Moderate
Montevallo shaly silt loam, 10 to 15 percent slopes (MoD).	Slight	Moderate	Moderate	Moderate	Moderate
Montevallo shaly silt loam, 10 to 15 percent slopes, severely eroded (MoD3).	Slight	Moderate	Moderate	Severe	Moderate
Montevallo shaly silt loam, 15 to 50 percent slopes (MoE).	Slight	Moderate	Moderate	Severe	Moderate
Montevallo shaly silt loam, 15 to 50 percent slopes, severely eroded (MoE3).	Slight	Moderate	Moderate	Severe	Moderate
Group 13: Miscellaneous land types that show little or no profile development.					
Gullied land (Gu)	Slight to severe.	Slight to severe.		Moderate to severe.	Slight to moderate.
Rock land (Rd)	Slight to severe.	Moderate	Severe	Moderate to severe.	Moderate
Sandy alluvial land (Sa)	Slight to severe.	Slight to severe.		Slight	Slight to moderate.
Terrace escarpments (Tc)	Slight to severe.	Slight to severe.		Moderate to severe.	Slight to moderate.

[1] Average height attained by dominant trees in 50 years. The first number given is the average for all of the soils in the group. Figures in parentheses show the range among the samples collected.

and ratings for limitations and hazards affecting management –Continued

data are not available]

Potential productivity (site index)[1]			Species suitability	
Loblolly pine	Shortleaf pine	Virginia pine	Favor in the stand	Use for planting
73 (65–81)		66 (60–76)	Loblolly pine, Virginia pine, and yellow-poplar.	Loblolly pine, Virginia pine, and yellow-poplar.
62 (57–66)			Loblolly pine and Virginia pine	Loblolly pine and Virginia pine.
70 (64–77)	59	68	Loblolly pine and Virginia pine	Loblolly pine and Virginia pine.
56 (51–69)	61 (55–69)	57 (53–62)	Loblolly pine, Virginia pine, and yellow-poplar.	Loblolly pine, Virginia pine, and yellow-poplar.

[2] Ratings given apply to the dominant soils in the mapping unit. Individual sites are more variable than sites in mapping units that are mainly one kind of soil. Cuthbert soils have moderate equipment limitations.

Loblolly and shortleaf pine are the commercial trees best suited to these soils. The site index for loblolly pine ranges from 64 to 79, and for shortleaf pine from 42 to 60. Yellow-poplar is a well-suited hardwood. Seedling mortality is slight, and plant competition is moderate. Erosion hazard is moderate on the lower slopes and severe on the steeper slopes.

The soils in this group are well suited to woodland grazing where the trees are dominantly loblolly or shortleaf pine and where an open or sparse forest canopy is maintained. In most areas proper management of the stand of timber will permit enough native grasses to grow so that some grazing is provided. Preferred plants include little bluestem, switchgrass, deerstongue, perennial lespedeza, and perennial tickclover. Overgrazing of the woodland encourages growth of slender bluestem, goldaster, low and beaked panicum, and three-awn, which are less desirable than the preferred grasses. If grazing is extremely heavy, undesirable annual weeds and grasses invade and take over as ground cover in the grazed areas. The acreage required for each animal depends upon the condition and type of grasses and the density of the stand of timber and other plant cover. The stocking rate should be controlled to encourage growth of the preferred plants.

WOODLAND SUITABILITY GROUP 5

The soils in this group are deep and moderately well drained to somewhat poorly drained. Their root zone is shallow to moderately deep, however, because they have a fragipan at a depth of 14 to 30 inches. The available moisture capacity is low.

Loblolly, shortleaf, and Virginia pine are the commercial trees best suited to these soils. The site index for loblolly pine ranges from 63 to 73; for shortleaf pine, from 48 to 58; and for Virginia pine, from 55 to 62. Yellow-poplar is a well-suited hardwood. Seedling mortality is slight on these soils. Plant competition is moderate on the Prentiss and Savannah soils, but it is severe on the Pheba soil. The erosion hazard is slight, except on the strongly sloping areas of the Savannah soils, where it is moderate. The windthrow hazard is moderate.

WOODLAND SUITABILITY GROUP 6

In this county only Guin gravelly sandy loam, 6 to 15 percent slopes, is in this group. It is a deep, excessively drained gravelly soil that consists mainly of ungraded sand and gravel. The available moisture capacity is very low, and permeability is very rapid.

Loblolly, shortleaf, and Virginia pine are the commercial trees best suited to these soils. The site index for loblolly pine ranges from 59 to 67; for shortleaf pine, from 48 to 53; and for Virginia pine, from 52 to 62. Yellow-poplar is a well-suited hardwood. Seedling mortality is moderate because of the excessive drainage. Plant competition is moderate. Equipment limitations are slight, and there are slight hazards of erosion and windthrow.

WOODLAND SUITABILITY GROUP 7

The soils in this group are deep, friable, and medium textured. They are moderately well drained to poorly drained. These soils are in swales and depressions and are at the heads of and along narrow drainageways. Permeability is moderate to slow, and the available moisture capacity is moderate to high.

Loblolly and shortleaf pine are the commercial trees best suited to these soils. The site index for loblolly pine ranges from 72 to 94; for shortleaf pine it is 74. Yellow-poplar, sweetgum, red oak, and white oak are well-suited hardwoods. On these soils wetness causes most of the limitations to the growth of trees and most of the management problems. Seedling mortality is slight, but competition from unwanted plants is severe because of the moderate to high available moisture capacity and the moderate fertility. Equipment limitations are generally moderate, but the soils are wet in winter and early in spring; at that time the use of equipment is severely limited. Although the windthrow hazard is slight, trees may be uprooted by a strong wind when the soil is wet. The erosion hazard is slight.

WOODLAND SUITABILITY GROUP 8

This group consists of deep, moderately well drained to somewhat poorly drained soils on foot slopes and stream terraces. The soils have a well-developed fragipan at a depth of 16 to 30 inches. Permeability is moderate above the fragipan but slow within the pan. The available moisture capacity is moderate to low.

Loblolly pine is the commercial tree best suited to these soils. The site index for loblolly pine ranges from 68 to 88. Most of the limitations to the growth of trees on these soils and most of the management problems are caused by excess water and by the fragipan. Seedling mortality is slight. Because the moisture supply is good, plant competition is moderate. In winter and in spring, these soils are normally saturated and equipment limitations are moderate. Care should be used to prevent heavy equipment from miring down. The erosion hazard is slight. The fragipan restricts the growth of roots and causes a moderate windthrow hazard.

WOODLAND SUITABILITY GROUP 9

In this group are moderately deep to deep, well-drained soils on uplands and stream terraces.

Loblolly and Virginia pine are the commercial trees best suited to these soils (fig. 18). The site index for loblolly pine ranges from 65 to 81, and for Virginia pine,

Figure 18.—**Stand of loblolly pine on Enders loam, 2 to 6 percent slopes, eroded. The stand is overstocked and needs thinning.**

from 60 to 76. Yellow-poplar is a well-suited hardwood. Seedling mortality is slight. Plant competition is severe on the Sequatchie soil because of the abundant water supply, but it is moderate on the Enders and Hanceville soils. The erosion hazard is slight on the gentle slopes and moderate on the steeper slopes. The windthrow hazard is slight.

WOODLAND SUITABILITY GROUP 10

Well-drained, moderately deep, and severely eroded soils on uplands make up this group. The soils are gently sloping to moderately steep. Surface runoff is medium to rapid. Permeability is moderate to slow in the firm, clayey subsoil, and the available moisture capacity is low.

Loblolly pine is the commercial tree best suited to these soils. The site index for loblolly pine ranges from 57 to 66. Yellow-poplar is a well-suited hardwood. On these soils most of the limitations to the growth of trees and most of the management problems are caused by severe erosion and by the low available moisture capacity. Seedling mortality and plant competition are moderate. Equipment limitations are slight, and the erosion hazard is moderate. The windthrow hazard is slight.

WOODLAND SUITABILITY GROUP 11

The soils in this group are well drained and are shallow to moderately deep. They are gently sloping to moderately steep and are on uplands.

Loblolly, shortleaf, and Virginia pine are the commercial trees best suited to these soils. The site index for loblolly pine ranges from 64 to 77; the site index for shortleaf pine is 59; and the site index for Virginia pine is 68. Yellow-poplar is a well-suited hardwood. On these soils most of the limitations to the growth of trees and most of the management problems are the result of the shale near the surface. Seedling mortality is slight, and plant competition is moderate. The equipment limitations are slight. The erosion hazard is slight on the gentle slopes, but it is moderate on the steeper slopes. The windthrow hazard is moderate because the soils have a shallow root zone.

WOODLAND SUITABILITY GROUP 12

This group consists of shallow or very shallow, excessively drained soils that are sloping to steep. The available moisture capacity is low or very low.

Loblolly, shortleaf, and Virginia pine are the commercial trees best suited to these soils. Yellow-poplar is a well-suited hardwood. The site index for loblolly pine ranges from 51 to 69; for shortleaf pine, from 55 to 69; and for Virginia pine, from 53 to 62. On these soils most of the limitations to the growth of trees and most of the problems of management are caused by the steep slopes, the shallow root zone, the low fertility, and the low available moisture capacity. Seedling mortality is slight, and plant competition is moderate. Equipment limitations are slight on the gentle slopes, but they are moderate on the moderately steep and steep slopes. The erosion hazard is moderate on the gentle slopes, but severe on the steep slopes. The windthrow hazard is moderate.

WOODLAND SUITABILITY GROUP 13

This group consists of three miscellaneous land types of the Coastal Plain and a small acreage of Rock land in the plateau section. These land types contain little soil material, and their suitability for trees should be determined at each site. The soil characteristics of these land types are extremely variable. Because of these varied characteristics, seedling mortality ranges from slight to severe. Plant competition is generally slight, but ranges from slight to severe, and the windthrow hazard ranges from slight to moderate. The erosion hazard is moderate to severe, except on Sandy alluvial land, where it is slight.

Management of Pine Woodland

The size of the trees and the density of the stand have much to do with the management needed on woodland. Suggested in the following paragraphs are practices for managing stands of pine trees of seedling size, of trees to be used for posts or pulpwood, and of trees to be used for sawtimber.

Seedlings.—Well-stocked and understocked stands of seedlings should be protected by firebreaks and should not be grazed. Removal of undesirable trees is also required in these stands (fig. 19). Plant seedlings in the understocked areas.

Trees for posts or pulpwood.—Firebreaks should be constructed to protect well-stocked and understocked stands where the trees are of a size suitable for posts and pulpwood. Grazing on these stands should be controlled and undesirable trees removed. The well-stocked stands require general intermediate cutting (fig. 20), and understocked stands require intermediate cutting in the denser parts.

Trees for sawtimber.—Construct firebreaks and regulate grazing on well-stocked and understocked stands where the trees are to be cut for sawtimber. These stands also require harvest cutting and the removal of undesirable trees. The well-stocked areas need intermediate cutting, and the understocked areas should be planted to trees, or the trees should be left to reseed naturally. Prepare the site before planting trees or before the area reseeds naturally.

***Figure 19.*—An area where both mechanical and chemical methods have been used to remove undesirable trees so that young pines can make better growth.**

Figure 20.—**An immature stand showing intermediate cutting to remove pulpwood trees.**

Open areas.—Construct firebreaks, and do not permit cattle to graze in open areas that are planted to trees. Prepare the site before trees are planted or before the areas seed naturally.

Yield Data for Pine

Figure 21 shows, according to stated site indexes, yields in board feet of fully stocked, natural stands of loblolly, shortleaf, and Virginia pine to age 60. Figure 22 shows, also according to stated site indexes, yields in standard cords of fully stocked, natural stands of loblolly, shortleaf, and Virginia pine to age 40. The data are based on the published results of research (*5*, *7*).

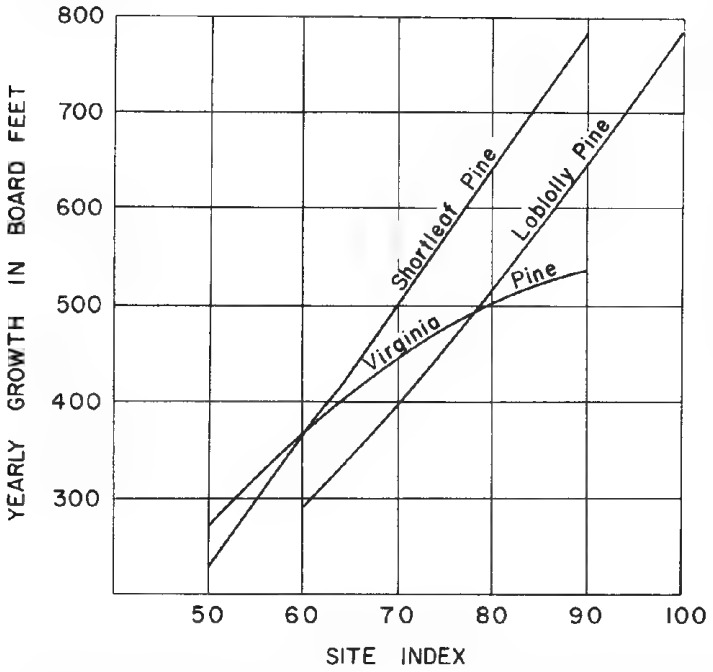

Figure 21.—**Average yearly growth per acre, in board feet, international rule, of fully stocked stands of loblolly, shortleaf, and Virginia pine to age 60.**

Use of Soils for Wildlife[4]

The soils of this county produce food, cover, and protection for many species of wildlife. Some species of wildlife spend most or all of their time in wooded areas; others thrive in open farmlands; and many, such as fish, beaver, and duck, require water for their habitat. Some eat only insects and other animal foods, others eat only vegetation, and some like a combination of the two.

Bobwhites, mourning doves, rabbits, squirrels, and many nongame birds are common throughout the county. Many farms have sites suitable for fishponds, and many farms already have a pond. Most parts of the county have large areas of well-watered woodland suitable for deer and wild turkey. The bottom lands along the Sipsey River and Luxapallila Creek are well suited to wild ducks and beaver. Dams made by beaver are common in these areas and in many of the other small streams throughout the county.

[4] VERNE E. DAVISON, Southeastern biologist, SCS, assisted with the preparation of this section.

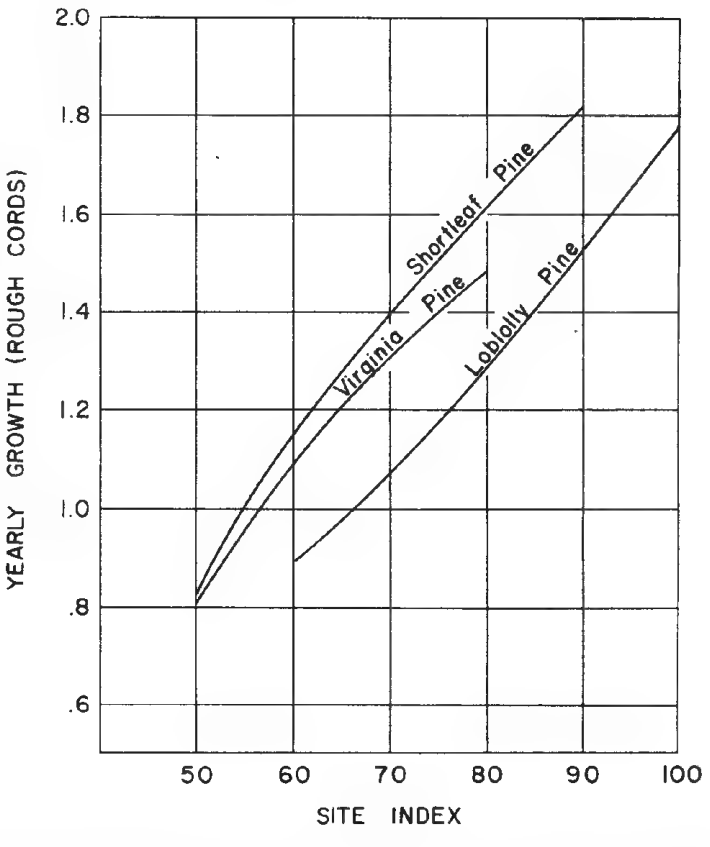

Figure 22.—**Average yearly growth per acre, in rough cords of unpeeled wood, for fully stocked, natural stands of loblolly, shortleaf, and Virginia pine to age 40.**

Table 4 lists significant foods provided by plants, and rates them as *choice*, *fair*, or *unimportant* for each species of wildlife. The same plants furnish part of the cover needed. Plant cover is generally abundant or excessive, however, in the humid climate that is typical of this county, or cover can be grown readily where needed.

Following is a brief summary of the needs of the more important wildlife species in the county.

Beaver.—Beaver eat strictly plant foods—mostly bark, roots, and green plants. The tender bark, or cambium, of alder, ash, birch, cottonwood, maple, pine, sweetgum, and willow are the tree foods most eaten. Beaver also eat the tender shoots of elder, honeysuckle, grass, and weeds. Acorns and corn are also choice foods. The chief feeding areas are not more than 150 feet from water.

Bobwhites.—Choice foods are acorns, beechnuts, blackberries, browntop millet, wild black cherries, corn, cowpeas, Japanese millet, annual and bicolor lespedezas, mulberries, pecans, common ragweed, tickclover, wheat, and the seeds of croton, dogwood, pines, and sweetgum. Bobwhites also eat many insects. Their food must be close to sheltering vegetation that will protect them from sun and from predators and bad weather.

Deer.—Choice foods are acorns, bahiagrass, clover, corn, cowpeas, honeysuckle, annual and bicolor lespedezas, oats, rescuegrass, ryegrass, and wheat. For adequate cover, deer generally need wooded areas that are 500 acres or more in size.

Ducks.—Choice foods are acorns, beechnuts, browntop millet, corn, Japanese millet, wheat, and the seeds of smartweed. These foods must be covered with water to be readily available to ducks, although ducks feed occasionally on acorns and corn on dry land.

Gray and red foxes.—Foods for foxes are 75 to 90 percent animal material. The chief animal foods are mice, rabbits, grasshoppers, and other large insects, and fresh carrion. Plant foods are corn and apples, black cherries, persimmons, and other fruits.

Mourning doves.—Choice foods are browntop millet, corn, Japanese millet, pokeberry, common ragweed, wheat, and the seeds of croton, pine, and sweetgum. Doves do not eat insects, green leaves, or fruit. They drink water daily.

Rabbits.—Choice foods are clover, winter grasses, and other succulent vegetation. These are usually available. Suitable cover, such as a blackberry or plum thicket, is essential for the protection of rabbits. Sericea lespedeza also provides good cover.

Raccoons.—About half of the diet of raccoons is crayfish, fish, frogs, and grasshoppers. Plant foods are acorns, beechnuts, corn, pokeberries, blackberries, grapes, hackberries, mulberries, persimmons, and other fruits.

Squirrels.—Choice foods are acorns, beechnuts, black cherries, corn, hickory nuts, mulberries, pecans, wheat, and the seeds of dogwood and pine trees.

Wild turkey.—Choice foods are insects, acorns, bahiagrass, beechnuts, blackberries, browntop millet, clover leaves, corn, cowpeas, croton, wild grapes, hackberries, mulberries, oats, pecans, wheat, the seeds of dogwood and pine, and rescuegrass and ryegrass for forage. This bird survives only in large wooded areas that are generally 2,000 acres or more in size. Turkeys need surface water to drink each day, and they often roost in large trees over or near water.

Nongame birds.—The many species of nongame birds differ greatly in their choice of food. Several species eat nothing but insects, and a few eat insects and nuts or insects and fruits. Several others combine insects with acorns, nut meats, and fruits. The rating of the foods in table 4 for nongame birds is a general one, and there are many exceptions.

Fish.—The principal gamefish in the many farm ponds are bass, bluegills, and channel catfish. The choice foods of bluegills are aquatic worms and insects and their larvae. Small fish are essential food for bass and channel catfish. The number of such fish is related directly to the abundance of the food supply in the water, to the fertility of the soils in the watershed, and in lesser degree, to the fertility of the soils at the bottom of the pond. The soils at the site of many ponds are acid, and natural fertility is low. For this reason, most ponds need fertilizer and lime to produce enough microscopic algae to feed a large poundage of worms and insect larvae that, in turn, become food for fish.

The principal sportfish in the rivers and larger creeks are largemouth bass, redeye bass, and bluegill and various other sunfishes. In addition, the Sipsey River supports crappie and various species of catfish. The Sipsey River covers an area of 218 acres and is the largest stream in the county.

Wildlife Suitability Groups

Most species of wildlife cannot be related directly to the soils of the county. Instead, there is a two-step relationship: (1) Each kind of animal is related to its choice foods, as shown in table 4, and (2) each choice food is related directly to a group of soils that have similar characteristics (see table 5).

Table 5 lists alphabetically the names of the same plants that are listed in table 4. In table 5, however, the suitability of each kind of plant for the soils in each wildlife group is rated *suited*, *marginal*, or *poorly suited*. Thus, the symbols designate the suitability of a group of soils for the foods listed for each kind of wildlife. Additional information can be obtained from the work unit conservationist of the Soil Conservation Service. He maintains specific up-to-date technical guides for each important species of wildlife and fish and for each significant food or cover plant. He also has specifications for establishing and maintaining conservation practices that apply to the various soils and surface waters in the county.

WILDLIFE GROUP 1

This group consists of deep, well-drained soils on uplands and stream terraces where the slopes range from 0 to 10 percent. The surface layer is fine sandy loam or loam and is 4 to 15 inches thick. The subsoil is friable or firm sandy clay loam to clay. These soils have a moderate or low available moisture capacity. Permeability and infiltration of water are moderate to rapid. The soils are easy to work, but there is a slight to moderate hazard of erosion if they are tilled. The soils of this group are—

Enders loam, 2 to 6 percent slopes.
Enders loam, 2 to 6 percent slopes, eroded.
Enders loam, 6 to 10 percent slopes.
Enders loam, 6 to 10 percent slopes, eroded.
Greenville loam, 0 to 2 percent slopes.

TABLE 4.—*Suitability of various*

[Foods rated *choice* are those that are attractive and nutritious; the ones rated *fair* are the foods that are useful

Kind of plant	Part of plant eaten	Bobwhite	Deer	Dove	Duck	Fox
Bahiagrass	Foliage	Unimportant	Choice	Unimportant	Unimportant	Unimportant
	Seeds	Unimportant	Unimportant	Fair	Unimportant	Unimportant
Beech	Nuts	Choice	Fair	Unimportant	Choice	Unimportant
Blackberry	Fruit	Choice	Unimportant	Unimportant	Unimportant	Unimportant
	Foliage	Unimportant	Fair	Unimportant	Unimportant	Unimportant
Blackgum	Fruit	Fair	Unimportant	Unimportant	Unimportant	Unimportant
Browntop millet	Seeds	Choice	Unimportant	Choice	Choice	Unimportant
Buttonclover	Foliage	Unimportant	Choice	Unimportant	Unimportant	Unimportant
Cherry, black	Fruit	Choice	Unimportant	Unimportant	Unimportant	Choice
Chufa	Fruit	Unimportant	Choice	Unimportant	Choice	Unimportant
Clover, crimson	Foliage	Fair	Choice	Unimportant	Unimportant	Unimportant
Clover, white	Foliage	Fair	Choice	Unimportant	Unimportant	Unimportant
Corn	Seeds	Choice	Choice	Choice	Choice	Choice
Cowpeas	Seeds	Choice	Choice	Fair	Unimportant	Unimportant
Croton, woolly	Seeds	Choice	Unimportant	Choice	Unimportant	Unimportant
Dogwood, flowering	Fruit	Choice	Unimportant	Unimportant	Unimportant	Unimportant
Fescue, tall	Foliage	Unimportant	Fair	Unimportant	Unimportant	Unimportant
Grapes, wild	Fruit	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant
Hackberry	Fruit	Fair	Unimportant	Unimportant	Unimportant	Unimportant
Hickory	Nuts	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant
Honeysuckle	Foliage	Unimportant	Choice	Unimportant	Unimportant	Unimportant
Japanese millet	Seeds	Choice	Unimportant	Choice	Choice	Unimportant
Lespedeza, annual	Foliage	Unimportant	Choice	Unimportant	Unimportant	Unimportant
	Seeds	Choice	Unimportant	Unimportant	Unimportant	Unimportant
Lespedeza, bicolor	Foliage	Unimportant	Choice	Unimportant	Unimportant	Unimportant
	Seeds	Choice	Unimportant	Unimportant	Unimportant	Unimportant
Lespedeza, sericea	Seeds	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant
Mulberry	Fruit	Choice	Fair	Unimportant	Unimportant	Unimportant
Oak	Acorns	Choice	Choice	Unimportant	Choice	Unimportant
Oats	Foliage	Unimportant	Choice	Unimportant	Unimportant	Unimportant
Pecan	Nuts	Choice	Fair	Unimportant	Unimportant	Unimportant
Pine	Seeds	Choice	Unimportant	Choice	Unimportant	Unimportant
Pokeberry	Fruit	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant
	Seeds	Unimportant	Unimportant	Choice	Unimportant	Unimportant
Ragweed, common	Seeds	Choice	Unimportant	Choice	Unimportant	Unimportant
Rescuegrass	Foliage	Unimportant	Choice	Unimportant	Unimportant	Unimportant
Ryegrass	Foliage	Unimportant	Choice	Unimportant	Unimportant	Unimportant
Smartweed	Seeds	Fair	Unimportant	Unimportant	Choice	Unimportant
Sorghum, grain [2]	Seeds	Choice	Choice	Choice	Choice	Unimportant
Sweetgum	Seeds	Choice	Unimportant	Choice	Unimportant	Unimportant
Tickclover (beggarlice)	Seeds	Choice	Unimportant	Unimportant	Unimportant	Unimportant
Wheat	Foliage	Unimportant	Choice	Unimportant	Unimportant	Unimportant
	Seeds	Choice	Unimportant	Choice	Choice	Unimportant

[1] Fruit eaters include bluebirds, catbirds, mockingbirds, and waxwings; grain and seed eaters include blackbirds, cardinals, meadow larks, sparrows, and towhees; nut and acorn eaters include chickadees, grackles, bluejays, titmice, and woodpeckers.

Greenville loam, 2 to 6 percent slopes, eroded.
Greenville loam, 6 to 10 percent slopes, eroded.
Hanceville loam, 2 to 6 percent slopes, eroded.
Leadvale loam, 2 to 6 percent slopes.
Magnolia fine sandy loam, 2 to 10 percent slopes, eroded.
Ruston fine sandy loam, 0 to 2 percent slopes.
Ruston fine sandy loam, 2 to 6 percent slopes.
Ruston fine sandy loam, 2 to 6 percent slopes, eroded.
Ruston fine sandy loam, 6 to 10 percent slopes.
Ruston fine sandy loam, 6 to 10 percent slopes, eroded.
Sequatchie loam.

These soils make up about 12 percent of the county. About two-thirds of the acreage is cultivated or pastured. The soils are suited to many choice food plantings for several species of wildlife. They are not suitable for flooding as duck fields. Many drains through these areas provide favorable sites for small farm ponds.

WILDLIFE GROUP 2

This group consists of moderately deep and deep, moderately well drained or well drained soils on uplands where the slopes range from 2 to 10 percent. The surface layer is fine sandy loam and is 4 to 15 inches thick. The subsoil is friable sandy clay loam to firm or plastic clay. These soils have low available moisture capacity. Permeability is moderate to slow or very slow. The hazard of erosion is moderate to high. The soils in this group are—

Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes.
Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes, eroded.
Shubuta fine sandy loam, 2 to 6 percent slopes, eroded.
Shubuta fine sandy loam, 6 to 10 percent slopes.
Shubuta fine sandy loam, 6 to 10 percent slopes, eroded.
Shubuta-Boswell complex, 6 to 10 percent slopes, eroded.

food plants for wildlife

when choice foods are gone; and the ones rated *unimportant* are those that may be eaten in small amounts]

Rabbit	Raccoon	Squirrel	Turkey	Nongame birds [1]		
				Fruit eaters	Grain and seed eaters	Nut and acorn eaters
Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Unimportant	Choice	Unimportant	Fair	Unimportant.
Unimportant	Choice	Choice	Choice	Unimportant	Unimportant	Choice.
Unimportant	Choice	Fair	Choice	Choice	Unimportant	Unimportant.
Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant.
Unimportant	Choice	Fair	Fair	Choice	Unimportant	Fair.
Unimportant	Unimportant	Unimportant	Choice	Unimportant	Choice	Unimportant.
Choice	Unimportant	Unimportant	Choice	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Choice	Fair	Choice	Unimportant	Fair.
Unimportant	Choice	Choice	Choice	Unimportant	Unimportant	Fair.
Choice	Unimportant	Unimportant	Choice	Unimportant	Unimportant	Unimportant.
Choice	Unimportant	Unimportant	Choice	Unimportant	Unimportant	Unimportant.
Choice	Choice	Choice	Choice	Unimportant	Choice	Fair.
Fair	Unimportant	Unimportant	Choice	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Unimportant	Choice	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Choice	Choice	Choice	Unimportant	Unimportant.
Fair	Unimportant	Unimportant	Fair	Unimportant	Unimportant	Unimportant.
Unimportant	Choice	Fair	Choice	Choice	Unimportant	Unimportant.
Unimportant	Choice	Fair	Choice	Choice	Unimportant	Unimportant.
Unimportant	Unimportant	Choice	Fair	Unimportant	Unimportant	Choice.
Fair	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Unimportant	Fair	Unimportant	Choice	Unimportant.
Fair	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Unimportant	Fair	Unimportant	Unimportant	Unimportant.
Fair	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant.
Unimportant	Choice	Choice	Choice	Choice	Unimportant	Unimportant.
Unimportant	Choice	Choice	Choice	Unimportant	Unimportant	Choice.
Choice	Unimportant	Unimportant	Choice	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Choice	Choice	Unimportant	Unimportant	Choice.
Unimportant	Unimportant	Choice	Choice	Unimportant	Choice	Choice.
Unimportant	Choice	Unimportant	Unimportant	Choice	Unimportant	Unimportant.
Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Choice	Unimportant.
Choice	Unimportant	Unimportant	Choice	Unimportant	Unimportant	Unimportant.
Choice	Unimportant	Unimportant	Choice	Unimportant	Unimportant	Unimportant.
Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant	Unimportant.
Choice	Unimportant	Choice	Choice	Unimportant	Choice	Unimportant.
Unimportant	Unimportant	Fair	Fair	Unimportant	Choice	Unimportant.
Unimportant	Unimportant	Unimportant	Fair	Unimportant	Unimportant	Unimportant.
Choice	Unimportant	Unimportant	Choice	Unimportant	Unimportant	Unimportant.
Choice	Unimportant	Choice	Choice	Unimportant	Choice	Unimportant.

[2] Grain sorghum is a choice food for most birds that eat grain; however, it attracts blackbirds, cowbirds, sparrows, and other birds that are generally unwanted. Also, grain sorghum rots quickly in a humid climate, such as that in Fayette County. These two factors limit its value as food for wildlife.

These soils make up about 4 percent of the county, and about three-fourths of the acreage is wooded. Because they are shallow over dense, plastic clay and have low available moisture capacity, these soils are marginal or are poorly suited to most plantings for food and cover for wildlife. Many drains throughout the area provide favorable sites for small farm ponds.

WILDLIFE GROUP 3

This group consists of deep, moderately well drained soils on uplands and stream terraces where the slopes range from 0 to 10 percent. The soils have a fragipan at a depth of 20 to 30 inches. Their surface layer is fine sandy loam or loam and is 4 to 8 inches thick. The subsoil is sandy clay loam to clay loam. The available moisture capacity is low. Water enters these soils readily and moves at a moderate rate through the profile to the fragipan. It moves more slowly through the fragipan. During wet seasons, the subsoil is waterlogged. These soils are easy to work, but there is a slight to moderate hazard of erosion if they are cultivated. The soils in this group are—

Ora fine sandy loam, 2 to 6 percent slopes, eroded.
Ora fine sandy loam, 6 to 10 percent slopes.
Ora fine sandy loam, 6 to 10 percent slopes, eroded.
Prentiss fine sandy loam, 0 to 2 percent slopes.
Prentiss fine sandy loam, 2 to 6 percent slopes, eroded.
Savannah loam, 0 to 2 percent slopes.
Savannah loam, 2 to 6 percent slopes.
Savannah loam, 2 to 6 percent slopes, eroded.
Savannah loam, 6 to 10 percent slopes, eroded.

TABLE 5.—*Suitability of various food plants for the soils in the wildlife groups*

Kind of plant	Wildlife Groups							
	1	2	3	4	5	6	7	8
Bahiagrass	Marginal	Marginal	Marginal	Poor	Suited	Suited	Poor	Poor.
Beech	Poor	Poor	Poor	Poor	Suited	Poor	Poor	Poor.
Blackberry	Marginal	Marginal	Marginal	Poor	Suited	Marginal	Poor	Poor.
Blackgum	Marginal	Poor	Marginal	Marginal	Suited	Suited	Marginal	Poor.
Browntop millet	Suited	Marginal	Suited	Poor	Suited	Suited	Poor	Poor.
Buttonclover	Marginal	Marginal	Poor	Poor	Poor	Poor	Poor	Poor.
Cherry, black, wild	Suited	Marginal	Marginal	Poor	Suited	Marginal	Poor	Poor.
Chufa	Suited	Poor	Suited	Poor	Suited	Marginal	Marginal	Poor.
Clover, crimson	Suited	Marginal	Marginal	Poor	Poor	Poor	Poor	Poor.
Clover, white	Marginal	Marginal	Marginal	Poor	Suited	Suited	Marginal	Poor.
Corn	Marginal	Poor	Marginal	Poor	Suited	Marginal	Poor	Poor.
Cowpeas	Suited	Marginal	Suited	Poor	Suited	Poor	Poor	Poor.
Croton, woolly	Suited	Marginal	Suited	Poor	Suited	Marginal	Poor	Poor.
Dogwood, flowering	Suited	Marginal	Marginal	Marginal	Poor	Poor	Poor	Poor.
Fescue, tall	Marginal	Poor	Marginal	Poor	Suited	Suited	Marginal	Poor.
Grapes, wild	Marginal	Poor	Marginal	Poor	Suited	Marginal	Poor	Poor.
Hackberry	Marginal	Marginal	Marginal	Poor	Suited	Marginal	Poor	Poor.
Hickory	Suited	Marginal	Suited	Marginal	Suited	Marginal	Poor	Poor.
Honeysuckle	Suited	Marginal	Suited	Poor	Suited	Suited	Marginal	Poor.
Japanese millet	Poor	Poor	Poor	Poor	Suited	Suited	Suited	Poor.
Lespedeza, annual	Suited	Marginal	Suited	Poor	Suited	Suited	Poor	Marginal.
Lespedeza, bicolor	Suited	Marginal	Poor	Marginal	Suited	Poor	Poor	Marginal.
Lespedeza, sericea	Suited	Marginal	Marginal	Marginal	Suited	Poor	Poor	Marginal.
Mulberry	Suited	Marginal	Suited	Poor	Suited	Suited	Poor	Poor.
Oak [1]	Suited	Marginal	Suited	Marginal	Suited	Marginal	Suited [2]	Poor.
Oats (forage)	Suited	Marginal	Suited	Poor	Marginal	Poor	Poor	Poor.
Pecan	Suited	Marginal	Marginal	Poor	Suited	Marginal	Poor	Poor.
Pine (except Virginia) [3]	Suited	Suited	Suited	Marginal [2]	Suited	Marginal	Poor	Marginal.
Pokeberry	Suited	Marginal	Suited	Poor	Suited	Poor	Poor	Poor.
Ragweed, common	Suited	Marginal	Suited	Poor	Suited	Marginal	Poor	Poor.
Rescuegrass	Suited	Marginal	Suited	Poor	Suited	Poor	Poor	Poor.
Ryegrass	Suited	Marginal	Suited	Poor	Suited	Poor	Poor	Poor.
Smartweed	Poor	Poor	Poor	Poor	Marginal	Suited	Suited	Poor.
Sorghum, grain [4]	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor.
Sweetgum	Marginal	Marginal	Marginal	Marginal	Suited	Suited	Marginal	Poor.
Tickclover (beggarlice)	Suited	Marginal	Poor	Marginal	Suited	Marginal	Poor	Marginal.
Wheat (forage)	Suited	Marginal	Marginal	Poor	Marginal	Poor	Poor	Poor.

[1] Includes black, blackjack, northern red, post, scarlet, Shumard, southern red, water, white, and willow oaks.
[2] Overcup oak only.
[3] Virginia pines are suited to the soils in group 4.
[4] Grain sorghum is a choice food for most birds that eat grain; however, it attracts blackbirds, cowbirds, sparrows, and other birds that are generally unwanted. Also, grain sorghum rots quickly in a humid climate, such as that in Fayette County. These two factors limit its value and suitability as a food for wildlife.

These soils make up about 4 percent of the county, and nearly all of the acreage is used for crops or pasture. The soils are suited to many choice food plantings for several species of wildlife. They are poorly suited to deep-rooted crops that cannot tolerate waterlogging, even for short periods. These soils are not suitable for flooding as duck fields.

WILDLIFE GROUP 4

This group consists of soils on uplands where the slopes range from 10 to 50 percent. The soils vary greatly in depth to bedrock or to other distinctly different material. Because of their steep slopes and severe hazard of erosion, these soils are poorly suited to cultivated crops. The soils in this group are—

Enders loam, 10 to 15 percent slopes.
Enders loam, 10 to 15 percent slopes, eroded.
Guin gravelly sandy loam, 6 to 15 percent slopes.
Montevallo shaly silt loam, 6 to 10 percent slopes.
Montevallo shaly silt loam, 6 to 10 percent slopes, severely eroded.
Montevallo shaly silt loam, 10 to 15 percent slopes.
Montevallo shaly silt loam, 10 to 15 percent slopes, severely eroded.
Montevallo shaly silt loam, 15 to 50 percent slopes.
Montevallo shaly silt loam, 15 to 50 percent slopes, severely eroded.
Ora fine sandy loam, 10 to 15 percent slopes, eroded.
Rock land.
Ruston fine sandy loam, 10 to 15 percent slopes.
Ruston fine sandy loam, 10 to 15 percent slopes, eroded.
Ruston fine sandy loam, 15 to 25 percent slopes.
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes.
Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes, eroded.
Shubuta fine sandy loam, 10 to 15 percent slopes.
Shubuta fine sandy loam, 10 to 15 percent slopes, eroded.
Shubuta-Boswell complex, 10 to 15 percent slopes, eroded.
Shubuta-Boswell complex, 15 to 50 percent slopes.
Terrace escarpments.
Townley loam, 2 to 6 percent slopes, eroded.
Townley loam, 6 to 10 percent slopes.
Townley loam, 6 to 10 percent slopes, eroded.
Townley loam, 10 to 15 percent slopes, eroded.

These soils make up about 56 percent of the county, and nearly all of the acreage is wooded. They are mar-

ginal for choice perennial plants used by wildlife for food. Large areas of well-watered woodland suitable for deer (fig. 23) and wild turkey are common in this group.

WILDLIFE GROUP 5

This group consists of deep, well drained and moderately well drained soils on first bottoms and at the heads of and along small drainageways. Occasionally, the soils on first bottoms are covered by floodwaters for short periods. The surface layer is fine sandy loam to silt loam and is 5 to 15 inches thick. Below the surface layer is soil material ranging from sandy loam to silty clay loam. The available moisture capacity is high. These soils are easy to work, and erosion is not a hazard, except in areas where floods cause scouring. The soils in this group are—

Iuka-Ochlockonee complex, local alluvium.
Iuka silt loam.
Ochlockonee loam.
Ochlockonee sandy loam.
Philo soils, local alluvium.

These soils are widely distributed throughout the county and make up about 4 percent of the acreage. About two-thirds of the acreage is cultivated or pastured. These soils are suited to most of the choice food plants for wildlife. Most areas can be flooded for use as duck fields.

WILDLIFE GROUP 6

This group consists of deep, somewhat poorly drained soils at the heads of and along small drainageways. The soils are on first bottoms, and on upland flats and low stream terraces. Their surface layer is fine sandy loam to silt loam and is 6 to 10 inches thick. The texture of the underlying soil material is variable, and in most places the material is mottled with gray. The soils of the first bottoms and low terraces are flooded occasionally. The available moisture capacity is moderate to high. Unless they are artificially drained, these soils are too wet for cultivated crops. Erosion is not a hazard, except in areas where floods cause scouring. The soils in this group are—

Mantachie fine sandy loam.
Mantachie soils, local alluvium.

Figure 23.—**Deer browsing in a mixed forest in Fayette County.**

Pheba loam.
Sandy alluvial land.
Stough loam, 0 to 2 percent slopes.
Stendal soils, local alluvium.
Tyler loam.

These soils make up about 9 percent of the county, and about half of the acreage is wooded. Because of their somewhat poor drainage, the high water table, and flooding, the soils are suited to only a few of the choice food plants for wildlife. Among the foods to which they are suited are browntop millet, white clover, tall fescue, Japanese millet, and smartweed. Many areas can be flooded for use as duck fields.

WILDLIFE GROUP 7

This group consists of deep, poorly drained, nearly level soils at the heads of and along small drainageways. The soils are on first bottoms and on upland flats and low stream terraces. Their surface layer is loam or silt loam and is 4 to 8 inches thick. It is underlain by gray sandy loam to clay. The soils of first bottoms are flooded frequently. They have a high water table, and water stands on the surface for long periods. The soils of first bottoms are difficult to work; they are poorly suited to cultivated crops unless they are artificially drained and protected from flooding. Erosion is not a hazard, except in areas where floods cause scouring. The soils in this group are—

Atkins soils, local alluvium.
Bibb soils.
Bibb soils, local alluvium.
Mashulaville loam.
Myatt silt loam.

These soils make up about 8 percent of the county, and nearly all of the acreage is wooded. The soils are suited to only a few of the choice food plants for wildlife because of their poor drainage, high water table, and flooding. They are suited to Japanese millet, smartweed, and the woody plants eaten by beaver. Most of the areas can be flooded for use as duck fields. Many dams built by beaver are on these soils.

WILDLIFE GROUP 8

This group consists of moderately deep and deep, well drained and moderately well drained soils on uplands where the slopes are 2 to 15 percent. The soils are severely eroded and are gullied in places. The surface layer is sandy clay loam to silty clay loam and is 2 to 5 inches thick. The subsoil is friable to firm sandy clay loam to clay. The available moisture capacity is low to moderate. Water enters these soils slowly and moves at a moderate to slow rate through the profile. The soils are difficult to work, and the hazard of erosion is severe. The soils in this group are—

Enders clay loam, 2 to 6 percent slopes, severely eroded.
Enders clay loam, 6 to 10 percent slopes, severely eroded.
Enders clay loam, 10 to 15 percent slopes, severely eroded.
Greenville clay loam, 2 to 10 percent slopes, severely eroded.
Gullied land.
Ora sandy clay loam, 6 to 10 percent slopes, severely eroded.
Ruston sandy clay loam, 6 to 10 percent slopes, severely eroded.
Ruston sandy clay loam, 10 to 15 percent slopes, severely eroded.
Townley silty clay loam, 2 to 6 percent slopes, severely eroded.
Townley silty clay loam, 6 to 10 percent slopes, severely eroded.
Townley silty clay loam, 10 to 15 percent slopes, severely eroded.

756–320—65——5

These soils make up about 3 percent of the county. Most of the acreage has been cultivated, but much of it is now idle or is reverting to pine forest. Vegetation is difficult to establish and maintain because of the strong slopes and severe erosion. These soils are not well suited to any of the wildlife food plants. Plants such as lespedeza, pine, and tickclover can be grown, but are marginal.

Engineering Properties of Soils [5]

Soil engineering is a part of structural engineering. It deals with soil as structural material or with soil as foundation material upon which structures rest. A soil is generally used at its original location and in the form in which it occurs. Therefore, important steps in soil engineering consist of locating the various kinds of soils, determining their engineering properties and how they meet the requirements of the job, and selecting the best material available for each job.

At many construction sites, major variations may occur in the soils within the depth of the proposed excavation, and several different kinds of soils may occur within a short distance. If the maps, soil descriptions, and other data in this report are used to plan a detailed investigation of the soils at the proposed site of construction, a minimum number of soil samples will be needed for laboratory testing, and an adequate investigation of the soils can be made at minimum cost.

This soil survey report contains information about the soils of Fayette County that can be used by engineers to—

1. Make soil and land use studies that will aid in selecting and developing industrial, business, residential, and recreational sites.
2. Make estimates of runoff and erosion characteristics. These estimates can be used in designing drainage and irrigation systems and in planning dams and other structures to conserve soil and water.
3. Make preliminary evaluations of soil and ground conditions that will aid in selecting locations for

[5] O. T. Weeks, Jr., agricultural engineer, Soil Conservation Service, assisted with the preparation of this section. O. R. Carter, soil scientist, Soil Conservation Service, supplied part of the information for the subsection "Soil Conservation Engineering."

Table 6.—*Engineering*

Soil name and location	Parent material	Alabama report No.	Depth	Horizon	Moisture density [2]	
					Maximum dry density	Optimum moisture
			Inches		*Lb. per cu. ft.*	*Percent*
Cuthbert fine sandy loam:						
SE¼NW¼ sec. 19, T. 13 S., R. 11 W. (Modal profile)	Coastal Plain sediments.	2804	0–5	Ap	103	15
		2798	9–18	B2t	102	20
		2761	24–41	C1	107	16
		2807	47–72+	IIC3	106	18
NE¼NW¼ sec. 19, T. 16 S., R. 11 W. (Sandy D horizon)	Coastal Plain sediments.	2801	0–6	Ap	105	14
		2760	14–28	C1	95	21
		2767	28–74+	IIC2	108	17
Mantachie fine sandy loam:						
NE¼NE¼ sec. 3, T. 14 S., R. 13 W. (Modal profile)	Recent alluvium from Coastal Plain uplands.	2776	0–6	Ap	106	15
		2765	10–25	C1	103	19
		2795	45–72	C4g	118	10
Mantachie loam:						
NE¼SW¼ sec. 15, T. 17 S., R. 11 W. (Local alluvium phase)	Recent alluvium.	2783	0–7	Ap	105	16
		2796	21–31	C21g	100	17
		2768	44–72	C32g	119	10
Mantachie silt loam:						
SE¼SE¼ sec. 27, T. 17 S., R. 12 W. (Finer textured surface layer and slightly better drainage than in modal profile)	Recent alluvium.	2791	4–10	A12	90	26
		2800	28–40	C22	110	16
		2803	40–72+	C3g	117	11
Montevallo shaly silt loam:						
SW¼SE¼ sec. 1, T. 16 S., R. 10 W. (Modal profile)	Shale (Pottsville formation).	2816	1½–6	A3	102	19
		2812	6–14	B	104	17
SE¼NE¼ sec. 29, T. 14 S., R. 11 W. (Very shallow)	Shale (Pottsville formation).	2762	1–9	A3	100	19
Montevallo fine sandy loam:						
NE¼SE¼ sec. 25, T. 14 S., R. 11 W. (Thick, sandy surface layer)	Coastal Plain sediments over shale.	2797	0–15	A	112	13
		2817	15–25	BC	100	22
		2790	25–38	C	99	20

See footnotes at end of table.

highways, pipelines, and airports and in planning detailed soil surveys for the intended locations.

4. Locate sources of sand and gravel for use in structures.
5. Correlate performance of engineering structures with soil mapping units, and thus develop information that will be useful in designing and maintaining the structures.
6. Determine the suitability of soils for cross-country movement of vehicles and construction equipment.
7. Supplement information obtained from other published maps, reports, and aerial photographs for the purposes of making soil maps and reports that can be used readily by engineers.

If the soils are identified on the soil map, the engineering interpretations reported here can be useful for many purposes. It should be emphasized that they may not eliminate the need for sampling and testing at the site of specific engineering works involving heavy loads and where the excavations are deeper than the depths of layers here reported. Even in these situations, the soil map is useful for planning more detailed field investigations and for suggesting the kinds of problems that may be expected.

Some of the terms used by the soil scientist may not be familiar to the engineer, and some words, for example, soil, clay, silt, and sand, have special meanings in soil science. Most of these terms are defined in the Glossary at the back of the report.

The information in this section is intended as a reference guide and not as a manual for using soil materials in engineering. The section contains three tables. The first, table 6, gives the results obtained by testing samples from 18 profiles of 7 soil series in the county. The second, table 7, gives a brief description of the soils in the county and certain characteristics that are significant to engineering. The third, table 8, rates the soils according to their suitability for winter grading and as a source of road subgrade, road fill, topsoil, sand, and gravel. It also indicates soil features that affect the suitability of the soils for the location of highways, for septic tanks, and for irrigation, agricultural drainage, waterways, terraces and diversions, and farm ponds. The information given in the tables is based on the results of testing soils of the series named in table 6, on information given in the rest of the report, and on information gained from experience with the same kinds of soils in other counties.

test data [1]

Mechanical analysis [3]							Liquid limit	Plasticity index	Classification	
Percentage passing sieve—						Percentage smaller than—				
1½ in.	¾ in.	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	0.022 mm.			AASHO [4]	Unified [5]
	100	89	83	78	61	20	26	2	A-4(5)	ML.
	100	95	83	82	76	51	46	24	A-7-6(15)	CL.
				100	91	58	42	22	A-7-6(13)	CL.
		100	97	97	94	67	46	25	A-7-6(15)	CL.
100	99	83	78	76	41	14	32	11	A-6(1)	SC.
			100	99	75	60	56	32	A-7-6(19)	CH.
				100	24	20	25	1	A-2-4(0)	SM.
			100	97	54	21	22	4	A-4(4)	ML-CL.
			100	99	92	41	25	2	A-4(8)	ML.
			100	99	50	20	17	1	A-4(3)	SM.
			100	96	76	41	26	4	A-4(8)	ML-CL.
			100	99	82	37	24	2	A-4(8)	ML.
			100	97	52	27	20	4	A-4(3)	ML-CL.
			100	99	82	54	42	13	A-7-6(10)	ML.
			100	99	79	40	25	5	A-4(8)	ML-CL.
			100	99	33	13	16	[6] NP	A-2-4(0)	SM.
			100	73	66	40	32	5	A-4(6)	ML.
	100	61	45	38	35	20	33	7	A-2-4(0)	SM.
	100	60	52	48	46	27	34	7	A-4(2)	SM.
	100	91	85	78	42	22	21	2	A 4(1)	SM.
	100	96	95	85	73	47	40	11	A-6(8)	ML.
		100	96	86	79	48	45	14	A-7-5(11)	ML.

TABLE 6.—*Engineering*

Soil name and location	Parent material	Alabama report No.	Depth	Horizon	Moisture density [2]	
					Maximum dry density	Optimum moisture
			Inches		*Lb. per cu. ft.*	*Percent*
Ruston fine sandy loam:						
SE¼SE¼ sec. 17, T. 15 S., R. 11 W. (Modal profile)	Sandy Coastal Plain sediments.	2818	0–6	Ap	116	11
		2786	9–29	B21t	110	15
		2813	29–45	B22t	116	13
		2815	56–72+	B32	117	10
NW¼NE¼ sec. 30, T. 15 S., R. 13 W. (Shallow)	Sandy Coastal Plain sediments.	2779	0–6	Ap	112	12
		2766	15–27	B2t	114	13
		2771	40–72+	C1	116	12
SW¼NW¼ sec. 24, T. 15 S., R. 11 W. (Light-textured profile)	Sandy Coastal Plain sediments.	2780	0–7	Ap	122	9
		2792	7–25	B2t	119	10
		2810	25–40	B31	120	10
		2814	40–69	C1	116	13
Savannah loam:						
SE¼NE¼ sec. 17, T. 14 S., R. 11 W. (Modal profile)	Coastal Plain sediments.	2775	0–5	Ap	112	10
		2805	5–25	AB, B2, A′2x& B′2x.	116	13
		2787	25–34	B′2tx& A′x.	112	14
		2784	42–72	B′3t	107	18
SE¼SW¼ sec. 10, T. 15 S., R. 12 W. (Grading toward Ora soils)	Coastal Plain sediments.	2809	0–6	Ap	113	12
		2764	6–20	B2	112	14
		2769	23–36	B′2tx	115	13
		2806	56 72	B′3tx	117	13
Savannah fine sandy loam:						
SE¼SW¼ sec. 31, T. 16 S., R. 9 W. (Coarser textured surface layer and thin B1 horizon)	Coastal Plain sediments.	2811	0–6	Ap	116	10
		2802	12-24	B2	113	14
		2793	29–47	B′1tx	110	15
		2799	47–72+	B′2tx	111	14
Shubuta fine sandy loam:						
NE¼NE¼ sec. 10, T. 16 S., R. 13 W. (Grading toward Boswell soils)	Coastal Plain sediments.	2794	0–5	Ap	107	13
		2782	5–19	B2lt	102	20
		2808	31–40	B23t	105	16
		2788	40–72	IIC	97	22
Stough loam:						
SE¼SE¼ sec. 21, T. 15 S., R. 12 W. (Modal profile)	Old alluvium from Coastal Plain uplands.	2778	0–5	Ap	108	16
		2774	10–19	B1g	105	18
		2785	30–59	B3g	113	13
		2789	59–72+	IICg	111	13
Stough fine sandy loam:						
NE¼NE¼ sec. 15, T. 15 S., R. 13 W. (Sandy C horizon)	Old alluvium.	2759	0–6.5	Ap	110	13
		2763	17–30	B2txg	110	15
		2781	30–72+	B3txg	115	13
Stough silt loam:						
SE¼NE¼ sec. 24, T. 14 S., R. 13 W. (Finer textured C horizon)	Old alluvium.	2777	3½–7	A2	100	21
		2772	11–17	B1g	104	18
		2770	17–30	B2gx	106	16
		2773	30–72+	IICg	103	19

[1] Tests performed by the Alabama State Highway Department in accordance with standard procedures of the American Association of State Highway Officials (AASHO) (*2*).

[2] Based on AASHO Designation T 99–57, Method A (*2*).

[3] Mechanical analyses according to AASHO Designation T 88 (*2*). Results by this procedure frequently differ somewhat from results obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all material, including that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analyses used in this table are not suitable for use in naming textural classes for soils.

test data [1]—Continued

Mechanical analysis [3]							Liquid limit	Plasticity index	Classification	
Percentage passing sieve—						Percentage smaller than—			AASHO [4]	Unified [5]
1½ in.	¾ in.	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	0.022 mm.				
			100	88	30	11	14	NP	A–2–4(0)	SM.
			100	91	52	39	36	14	A–6(5)	CL.
	100	99	99	94	40	28	28	8	A–4(1)	SC.
	100	99	99	94	24	17	18	NP	A–2–4(0)	SM.
			100	95	24	9	NP	NP	A–2–4(0)	SM.
			100	97	43	31	23	6	A–4(2)	SM–SC.
100	97	89	88	77	25	20	21	2	A–2–4(0)	SM.
			100	92	30	17	NP	NP	A–2–4(0)	SM.
			100	89	39	25	20	6	A–4(1)	SM–SC.
			100	90	24	15	NP	NP	A–2–4(0)	SM.
			100	87	34	28	28	8	A–2–4(0)	SC.
	100	98	98	92	67	26	20	3	A–4(6)	ML.
	100	96	94	89	68	40	25	7	A–4(7)	ML–CL.
	100	99	98	92	69	43	30	10	A–4(7)	CL.
	100	99	99	92	68	48	39	18	A–6(10)	CL.
		100	99	92	62	28	19	3	A–4(5)	ML.
			100	95	71	41	26	9	A–4(7)	CL.
	100	99	99	94	59	35	23	7	A–4(5)	ML–CL.
			100	95	46	28	24	6	A–4(2)	SM–SC.
		100	85	76	42	19	17	1	A–4(1)	SM.
			100	90	60	38	29	9	A–4(5)	CL.
			100	85	53	38	32	11	A–6(4)	CL.
			100	88	46	33	29	8	A–4(2)	SM–SC.
	100	97	94	89	65	18	20	NP	A–4(6)	ML.
100	95	93	92	90	82	51	50	27	A–7–6(17)	CL.
				100	53	39	43	22	A–7–6(9)	CL.
				100	96	88	70	48	A–7–6(20)	CH.
			100	99	74	25	24	4	A–4(8)	ML–CL.
			100	99	82	47	30	8	A–4(8)	ML–CL.
			100	97	62	32	25	4	A–4(5)	ML–CL.
			100	98	79	37	27	7	A–4(8)	ML–CL.
			100	91	51	25	22	1	A–4(3)	ML.
			100	76	49	30	26	4	A–4(3)	SM–SC.
			100	96	42	26	21	5	A–4(1)	SM–SC.
			100	98	86	46	30	10	A–4(8)	CL.
			100	96	86	52	33	13	A–6(9)	CL.
		100	98	89	80	51	31	10	A–4(8)	ML–CL.
		100	99	93	86	56	37	15	A–6(10)	CL.

[4] Based on Standard Specifications for Highway Materials and Methods of Sampling and Testing (Pt. 1, Ed. 8): The Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes, AASHO Designation M 145–49.

[5] Based on the Unified soil classification system (*11*). SCS and Bureau of Public Roads have agreed to consider that all soils having plasticity indexes within two points from A-line are to be given a borderline classification. Examples of borderline classifications obtained by this use are ML–CL and SM–SC.

[6] NP=Nonplastic.

TABLE 7.—*Engineering descriptions of the soils of*

[Miscellaneous land types, soil complexes, and undifferentiated soil groups are not listed in this table. For approximate information cellaneous land types are Gravel pit (Ga), Gullied land (Gu), Rock land (Rd), Sandy alluvial land (Sa), and Terrace escarpments (Tc); the RxC2, RxD, RxD2) and those of the Shubuta and Boswell series (ShC2, ShD2, and ShE); the only undifferentiated soil group is Man

Map symbol	Soil	Depth to seasonally high water table	Depth to bedrock	Brief description of soil and site	Depth from surface (typical profile)
		Feet	*Feet*		*Inches*
At	Atkins soils, local alluvium.	0–1	4–8	20 inches of silt loam that contains thin layers of sand; below is 3 to 5 feet of silty clay; highly mottled; formed in material washed from soils derived from shale and sandstone; high water table most of the year; high content of organic matter.	0–20+ 20–30+
Bb	Bibb soils.	0–1	6+	1 to 2 feet of silt loam over 2 to 4 feet of fine sandy loam that contains thin layers of sand; formed in alluvium washed from the Coastal Plain uplands; poorly drained and subject to flooding; high content of organic matter.	0–18 18–40
Bc	Bibb soils, local alluvium.	0–1	6+	1 to 3 feet of fine sandy loam over 2 to 5 feet of sandy clay loam that contains thin layers of sand; formed in material washed from the Coastal Plain uplands; poorly drained and has a high water table; high content of organic matter.	0–32 32–42
	Boswell fine sandy loam (mapped only in complexes with Shubuta soils).	(1)	6+	4 to 8 inches of fine sandy loam over 20 inches of plastic clay; underlain by 4 feet of mottled sticky and plastic clay; formed in thick beds of acid clay marine sediments.	0–4 4–24 24–72
	Cuthbert fine sandy loam (mapped only with Ruston and Shubuta soils).	(1)	6+	4 to 8 inches of fine sandy loam over 2 to 3 feet of silty clay; underlain by silty clay or clay; moderately well drained; formed in deposits of marine sediments; internal drainage impeded by the fine-textured subsoil.	0–5 5–24 24–41 41–72
EdB EdB2 EcB3 EdC EdC2 EcC3 EdD EdD2 EcD3	Enders loam, 2 to 6 percent slopes. Enders loam, 2 to 6 percent slopes, eroded. Enders clay loam, 2 to 6 percent slopes, severely eroded. Enders loam, 6 to 10 percent slopes. Enders loam, 6 to 10 percent slopes, eroded. Enders clay loam, 6 to 10 percent slopes, severely eroded. Enders loam, 10 to 15 percent slopes. Enders loam, 10 to 15 percent slopes, eroded. Enders clay loam, 10 to 15 percent slopes, severely eroded.	(1)	2½–5	3 to 10 inches of loam over 2 to 3 feet of silty clay; underlain by 1 to 2 feet of silty clay loam or silty clay; formed in material from interbedded shale and sandstone; in most places the solum is thinner where the slope is between 10 and 15 percent than in less sloping areas.	0–5 5–40 40–52
GmA GmB2 GmC2 GcC3	Greenville loam, 0 to 2 percent slopes. Greenville loam, 2 to 6 percent slopes, eroded. Greenville loam, 6 to 10 percent slopes, eroded. Greenville clay loam, 2 to 10 percent slopes, severely eroded.	(1)	6+	4 to 8 inches of loam over 1 to 2 feet of clay; underlain by 2 to 3 feet of fine sandy clay over sandy clay loam; formed in thick beds of sandy clay loam or clay loam marine sediments.	0–6 6–30 30–58 58–72

See footnotes at end of table.

Fayette County and their estimated physical properties

about the soils in the complexes and undifferentiated groups, see descriptions of soils of the same series mapped separately. The mis-soil complexes are those of the Iuka and Ochlockonee series (Lo), those of the Ruston, Cuthbert, and Shubuta series (RtE, RxC, tachie, Leaf, and Iuka soils (Mk)]

Classification			Percentage passing sieve—			Permeability	Available water capacity	Reaction	Shrink-swell potential
USDA texture	Unified	AASHO	No. 4 (4.7 mm.)	No .10 (2.0 mm.)	No. 200 (0.074 mm.)	*Inches per hour*	*Inches per inch of depth*	*pH value*	
Silt loam	CL or ML	A–4	98–100	95–100	80–90	0. 2–0. 8	0. 16–0. 25	6. 0	Low.
Silty clay	CL	A–6 or A–7.	98–100	95–100	85–95	0. 8–2. 0	0. 20–0. 25	5. 0	Moderate.
Silt loam	CL or ML	A–4	98–100	95–100	80–90	0. 2–0. 8	0. 16–0. 25	4. 5	Low.
Fine sandy loam	SM	A–4	98–100	95–100	40–50	1 -2. 25	0. 18–0. 25	4. 5	Low.
Fine sandy loam	SM	A–4	98–100	98–100	40–50	0. 2–0. 8	0. 20–0. 25	5. 0	Low.
Light sandy clay loam	ML or CL	A–4 or A–6.	98–100	98–100	60–70	0. 8–2. 0	0. 20–0. 25	4. 5	Low.
Fine sandy loam	SM	A–4	95–100	90–95	35–45	0. 8–2. 0	0. 08–0. 12	4. 5	Low.
Clay	CH	A–7	95–100	90–100	80–90	0–0. 2	0. 06–0. 12	4. 0	High.
Clay	CH	A–7	98–100	96–100	85–95	0–0. 2	0. 06–0. 12	4. 0	High.
Fine sandy loam	ML	A–4	85–95	80–90	55–65	4–5	0. 04–0. 08	5. 0	Low.
Silty clay or clay	CL or CH	A–7	90–100	80–90	70–80	0. 2–0. 8	0. 08–0. 12	4. 5	High.
Silty clay or clay	CL or CH	A–7	100	95–100	85–95	0. 2–0. 8	0. 08–0. 12	4. 5	High.
Clay or silty clay	CL	A–7	100	95–100	90–100	0. 8–2. 0	0. 12–0. 16	4. 5	Moderate.
Loam	ML	A–4	95–100	90–95	70–80	0. 8–2. 0	0. 16–0. 25	5. 0	Low.
Silty clay	CL or CH	A–7	98–100	90–100	80–95	0. 8–2. 0	0. 16–0. 20	5. 0	High.
Silty clay loam or silty clay	CL	A–7 or A–6.	90–95	85–90	80–85	0. 8–2. 0	0. 16	4. 0	Moderate.
Loam	ML	A–4	98–100	95–100	60–70	0. 8–2. 0	0. 08–0. 12	5. 0	Low.
Clay	CL or CH	A–7	98–100	95–100	70–80	0. 8–2. 0	0. 08–0. 16	5. 0	Moderate.
Fine sandy clay	CL	A–7	98–100	95–100	65–75	0. 8–2. 0	0. 08–0. 12	4. 5	Moderate.
Sandy clay loam	CL	A–6	98–100	95–100	50–60	0. 8–2. 0	0. 08–0. 12	4. 5	Moderate.

TABLE 7.—*Engineering descriptions of the soils of Fayette*

[Miscellaneous land types, soil complexes, and undifferentiated soil groups are not listed in this table. For approximate information cellaneous land types are Gravel pit (Ga), Gullied land (Gu), Rock land (Rd), Sandy alluvial land (Sa), and Terrace escarpments (Tc); the RxC2, RxD, RxD2) and those of the Shubuta and Boswell series (ShC2, ShD2, and SnE); the only undifferentiated soil group is Man

Map symbol	Soil	Depth to seasonally high water table	Depth to bedrock	Brief description of soil and site	Depth from surface (typical profile)
		Feet	*Feet*		*Inches*
GnD	Guin gravelly sandy loam, 6 to 15 percent slopes.	(1)	6+	1 to 2 feet of gravelly sandy loam over 4 to 6 feet of unsorted sand and gravel; in places the sand and gravel are several feet thick; formed in beds of sandy and gravelly marine sediments.	0–15 15–72
HaB2	Hanceville loam, 2 to 6 percent slopes, eroded.	(1)	3½–6	4 to 8 inches of loam over 2 to 3 feet of clay loam; underlain by 1 to 2 feet of sandy clay loam; formed in material weathered from sandstone.	0–5 5–37 37–48
Ik	Iuka silt loam.	1½–2½	6+	20 inches of silt loam over 40 inches of mottled loam; underlain by 12 or more inches of mottled silt loam; the soil material contains thin layers of sand; the soil formed in alluvium washed from the Coastal Plain uplands; subject to occasional flooding; moderately well drained; uppermost 18 inches high in content of organic matter.	0–20 20–60 60–78
LdB	Leadvale loam, 2 to 6 percent slopes.	1–2	4–8	4 to 8 inches of loam over 1½ feet of silt loam; underlain by 1½ feet of sandy clay loam; bedrock at a depth of 5 feet; formed in colluvium from shale; has a seasonally high, perched water table; internal drainage impeded by a fragipan at a depth of 18 to 30 inches; receives seepage water.	0–6 6–23 23–40
	Leaf silt loam (mapped only with Mantachie and Iuka soils).	0–1	6+	6 to 12 inches of silt loam over 2 to 3 feet of silty clay; underlain by 2 to 4 feet of dense clay; formed in fine-textured alluvium that washed down from the Coastal Plain; poorly drained; uppermost 18 inches high in content of organic matter; high water table; occasional flooding.	0–10 10–36 36–42+
MaC2	Magnolia fine sandy loam, 2 to 10 percent slopes, eroded.	(1)	6+	4 to 8 inches of fine sandy loam over 1 to 3 feet of clay; underlain by 3 to 5 feet of fine sandy clay loam; formed in thick beds of acid sandy clay loam to sandy clay marine deposits.	0–5 5–33 33–80+
Mc	Mantachie fine sandy loam.	½–1½	6+	6 to 12 inches of fine sandy loam over 1 to 2 feet of loam; underlain by 2 to 4 feet of fine sandy loam; contains thin layers of sand; formed in alluvium from the Coastal Plain uplands; subject to flooding; high water table; high content of organic matter; somewhat poorly drained.	0–10 10–31 45–72
Mh	Mantachie soils, local alluvium.	½–1½	6+	2 to 4 feet of fine sandy loam or loam over 2 to 3 feet of fine sandy loam; the soils contain thin layers of sand; they formed in material washed from the Coastal Plain uplands; high water table; somewhat poorly drained; high content of organic matter.	0–14 14–31 31–72
Mm	Mashulaville loam.	0–1	6+	14 inches of loam over 16 inches of mottled, compact and brittle loam; underlain by 2 to 4 feet of silty clay loam; formed in thick beds of acid silty clay loam marine sediments; a fragipan is at a depth of 12 to 24 inches; water stands on the surface for long periods; poorly drained; high content of organic matter.	0–14 14–30 30–54+

See footnote at end of table.

County and their estimated physical properties—Continued

about the soils in the complexes and undifferentiated groups, see descriptions of soils of the same series mapped separately. The mis-soil complexes are those of the Iuka and Ochlockonee series (Lo), those of the Ruston, Cuthbert, and Shubuta series (RtE, RxC, tachie, Leaf, and Iuka soils (Mk)]

Classification			Percentage passing sieve—			Permeability	Available water capacity	Reaction	Shrink-swell potential
USDA texture	Unified	AASHO	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 200 (0.074 mm.)	*Inches per hour*	*Inches per inch of depth*	*pH value*	
Gravelly sandy loam	GM	A–2	55–65	45–55	25–35	10 +	0. 01–0. 04	5. 0	Low.
Sand and gravel	GM to GC	A–2	40–50	35–45	15–25	10+	0. 01–0. 04	5. 0	Low.
Loam	ML	A–4	98–100	95–100	60–70	0. 8–2. 0	0. 12–0. 16	5. 0	Low.
Clay loam	CL	A–6	98–100	95–100	75–85	0. 8–2. 0	0. 12–0. 20	5. 0	Low to moderate.
Sandy clay loam	CL	A–6	85–90	80 85	50–60	0. 8–2. 0	0. 12–0. 16	5. 0	Moderate.
Silt loam	CL or ML	A–4 or A–6.	98–100	95–100	80–90	0. 8–2. 0	0. 16–0. 25	5. 0	Low to moderate.
Loam	CL or ML	A–4	98–100	95–100	60–70	0. 8–2. 0	0. 16 0. 20	4. 3	Low.
Silt loam	CL or ML	A–4 or A–6.	98–100	95–100	80–90	0. 2–0. 8	0. 16–0. 25	5. 0	Low to moderate.
Loam	SM or ML	A–4	85–100	80–95	45–60	0. 8–2. 0	0. 10–0. 16	5. 0	Low.
Silt loam	CL	A–4 or A–6.	95–100	90–95	70–80	0. 8–2. 0	0. 12–0. 16	5. 0	Low to moderate.
Sandy clay loam	ML or CL	A–6	90–100	85–90	45–60	0. 2–0. 8	0. 05–0. 10	5. 0	Moderate.
Silt loam	ML or CL	A–6	100	95–100	80–90	0. 2–0. 8	0. 12–0. 16	5. 5	Moderate.
Silty clay	CH or MH	A–7	98–100	98–100	95–100	0–0. 4	0. 08–0. 16	4. 8	High.
Silty clay or clay	CH or MH	A–7	100	100	95–100	0–0. 2	0. 08–0. 16	4. 5	High.
Fine sandy loam	SM	A–4	98–100	95–100	40–50	0. 8–2. 0	0. 08–0. 12	5. 5	Low.
Clay	CL or CH	A–7	98–100	95–100	70–80	0. 8–2. 0	0. 08–0. 16	5. 0	High.
Fine sandy clay loam	ML or CL	A–6	98–100	95–100	50–60	0. 8–2. 0	0. 08–0. 12	5. 0	Moderate.
Fine sandy loam	ML or CL	A–4	98–100	95–100	50–60	1. 5–3	0. 12–0. 16	6. 0	Low.
Loam	ML or CL	A–4	98–100	95–100	70–80	1. 5–3	0. 12–0. 16	5. 0	Low.
Fine sandy loam	SM or ML	A–4	98–100	95–100	45–55	1. 5–3	0. 08–0. 12	4. 0	Low.
Loam	ML or CL	A–4	98–100	95–100	70–80	1. 5–3	0. 12–0. 16	5. 0	Low.
Loam	ML	A–4	98–100	95–100	75–85	1. 5–3	0. 12–0. 16	5. 0	Low.
Fine sandy loam	ML or CL	A–4	98–100	95–100	45–55	1. 5–3	0. 08–0. 12	5. 0	Low.
Loam	ML	A–4	98–100	95–100	50–60	0. 2–0. 8	0. 08–0. 16	5. 0	Low.
Loam	ML	A–4	90–100	85–90	50–60	0. 2–0. 8	0. 04–0. 08	5. 0	Low.
Silty clay loam	CL	A–6	90–100	85–90	80–90	0–0. 2	0. 04–0. 08	4. 0	Moderate.

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Map symbol	Soil	Depth to seasonally high water table	Depth to bedrock	Brief description of soil and site	Depth from surface (typical profile)
		Feet	*Feet*		*Inches*
MoC	Montevallo shaly silt loam, 6 to 10 percent slopes.	(1)	1–2	3 to 10 inches of shaly silt loam over 1 to 2 feet of shaly silty clay loam; underlain by level, thin-bedded shale.	0–6 6–22
MoC3	Montevallo shaly silt loam, 6 to 10 percent slopes, severely eroded.				
MoD	Montevallo shaly silt loam, 10 to 15 percent slopes.				
MoD3	Montevallo shaly silt loam, 10 to 15 percent slopes, severely eroded.				
MoE	Montevallo shaly silt loam, 15 to 50 percent slopes.				
MoE3	Montevallo shaly silt loam, 15 to 50 percent slopes, severely eroded.				
My	Myatt silt loam.	0–1	6+	5 to 10 inches of silt loam over 2 feet of sandy clay loam; underalin by 3 to 4 feet of loam; formed in old alluvium from the Coastal Plain uplands; water stands on the surface for long periods; occasional flooding; poorly drained; high content of organic matter.	0–8 8–32 32–72
Oc	Ochlockonee loam.	2½–4	6+	6 to 12 inches of loam over 2 to 3 feet of loam or fine sandy loam; underlain by 2 to 4 feet of silt loam; formed in alluvium washed from the Coastal Plain uplands; the profile contains thin layers of sand; subject to occasional flooding.	0–40 40–62+
Od	Ochlockonee sandy loam.				
OfB2	Ora fine sandy loam, 2 to 6 percent slopes, eroded.	2–3	6+	4 to 8 inches of fine sandy loam over 1½ to 2 feet of loam: underlain by 3 to 6 feet of sandy clay loam; formed in thick beds of acid fine sandy loam or sandy clay loam marine sediments; internal drainage impeded by a fragipan at a depth of 20 to 32 inches; seasonally high, perched water table above the fragipan.	0–5 5–22 22–72
OfC	Ora fine sandy loam, 6 to 10 percent slopes.				
OfC2	Ora fine sandy loam, 6 to 10 percent slopes, eroded.				
OrC3	Ora sandy clay loam, 6 to 10 percent slopes, severely eroded.				
OfD2	Ora fine sandy loam, 10 to 15 percent slopes, eroded.				
Pb	Pheba loam.	1–2	6+	About 20 inches of loam over 12 inches of mottled, compact, brittle loam; underlain by 2 to 3 feet of clay loam; formed in thick beds of sandy clay loam or clay loam marine sediments; a fragipan is at a depth of 14 to 30 inches; somewhat poorly drained.	0–18 18–30 30–54
Ph	Philo soils, local alluvium.	1½–2	4–8	2 to 3 feet of silt loam over 1 to 2 feet of loam; formed in alluvium washed from shale and sandstone; bedrock is at a depth of 4 to 8 feet; moderately well drained; receives seepage water and has a seasonally high water table.	0–25 25–40+
PrA	Prentiss fine sandy loam, 0 to 2 percent slopes.	2–5	6+	4 to 12 inches of fine sandy loam over 1 to 2 feet of fine sandy clay loam; underlain by 1 to 2 feet of clay loam; formed in material washed from Coastal Plain uplands; moderately well drained; internal drainage impeded by a fragipan at a depth of 20 to 30 inches; seasonally high water table above the fragipan.	0–6 6–22 22–42 42–60+
PrB2	Prentiss fine sandy loam, 2 to 6 percent slopes, eroded.				

See footnote at end of table

County and their estimated physical properties—Continued

about the soils in the complexes and undifferentiated groups, see descriptions of soils of the same series mapped separately. The mis-soil complexes are those of the Iuka and Ochlockonee series (Io), those of the Ruston, Cuthbert, and Shubuta series (RtE, RxC, tachie, Leaf, and Iuka soils (Mk)]

Classification			Percentage passing sieve—			Permeability	Available water capacity	Reaction	Shrink-swell potential
USDA texture	Unified	AASHO	No. 4 (4.7 mm.)	No. 0 (2.0 mm.)	No. 200 (0.074 mm.)				
						Inches per hour	*Inches per inch of depth*	*pH value*	
Shaly silt loam	ML	A–4	90–100	90–100	60–70	1. 5–3	0. 06–0. 08	5. 5	Low.
Shaly silty clay loam	SM	A–2 or A–6.	55–65	40–50	30–40	1. 5–3	0. 01–0. 04	5. 0	Low.
Silt loam	CL or ML	A–4	98–100	95–100	80–90	0. 2–0. 8	0. 08–0. 16	5. 0	Low.
Sandy clay loam	SC or CL	A–4 or A–6.	98–100	95–100	45–60	0. 2–0. 8	0. 08–0. 16	4. 5	Low to moderate.
Loam	ML	A–4	98–100	95–100	50–60	0. 8–2. 0	0. 04–0. 08	4. 0	Low.
Loam	ML	A–4	98–100	95–100	55–65	0. 8–2. 0	0. 16–0. 20	5. 5	Low.
Silt loam	CL or ML	A–4	98–100	95–100	80–95	0. 8–2. 0	0. 16–0. 20	5. 0	Low.
Fine sandy loam	SM	A–4	95–100	90–95	35–45	0. 8–2. 0	0. 08–0. 12	5. 0	Low.
Loam	ML	A–4	98–100	95–100	60–70	0. 8–2. 0	0. 08–0. 16	4. 5	Low.
Sandy clay loam	SC or CL	A–4 or A–6.	95–100	95–100	45–60	0. 2–0. 8	0. 04–0. 08	4. 0	Low to moderate.
Loam	ML	A–4	98–100	95–100	55–65	0. 8–2. 0	0. 08–0. 12	5. 0	Low.
Loam	ML	A–4	98–100	95–100	60–70	0. 2–0. 8	0. 08–0. 12	5. 0	Low.
Clay loam	CL	A–6	98–100	95–100	65–75	0. 2–0. 8	0. 04–0. 08	5. 0	Moderate.
Silt loam	ML	A–4	98–100	95–100	80–90	0. 8–2	0. 16–0. 20	5. 5	Low.
Loam	ML	A–4	95–100	90–100	60–70	0. 8–2	0. 16–0. 20	5. 5	Low.
Fine sandy loam	SM	A–4	98–100	95–100	40–50	0. 8–2. 0	0. 08–0. 12	6. 0	Low.
Fine sandy clay loam	SC or CL	A–6	98–100	95–100	45–55	0. 8–2. 0	0. 08–0. 12	5. 0	Moderate.
Clay loam	CL	A–6 or A–7.	98–100	95–100	60–70	0. 2–0. 8	0. 04–0. 08	4. 0	Moderate.
Sandy clay loam	SM or CL	A–6	98–100	95–100	45–55	0. 2–0. 8	0. 04–0. 08	4. 0	Moderate.

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[Miscellaneous land types, soil complexes, and undifferentiated soil groups are not listed in this table. For approximate information cellaneous land types are Gravel pit (Ga), Gullied land (Gu), Rock land (Rd), Sandy alluvial land (Sa), and Terrace escarpments (Tc); the RxC2, RxD, RxD2) and those of the Shubuta and Boswell series (ShC2, ShD2, and ShE); the only undifferentiated soil group is Man

Map symbol	Soil	Depth to seasonally high water table	Depth to bedrock	Brief description of soil and site	Depth from surface (typical profile)
		Feet	*Feet*		*Inches*
RfA	Ruston fine sandy loam, 0 to 2 percent slopes.	(1)	6+	4 to 12 inches of fine sandy loam over 1½ to 2 feet of fine sandy clay loam; below is 1½ to 2 feet of fine sandy loam underlain by 2 to 4 feet of sandy loam; formed in thick beds of acid, sandy marine sediments.	0–6 9–29 29–45 45–72+
RfB	Ruston fine sandy loam, 2 to 6 percent slopes.				
RfB2	Ruston fine sandy loam, 2 to 6 percent slopes, eroded.				
RfC	Ruston fine sandy loam, 6 to 10 percent slopes.				
RfC2	Ruston fine sandy loam, 6 to 10 percent slopes, eroded.				
RsC3	Ruston sandy clay loam, 6 to 10 percent slopes, severely eroded.				
RfD	Ruston fine sandy loam, 10 to 15 percent slopes.				
RfD2	Ruston fine sandy loam, 10 to 15 percent slopes, eroded.				
RsD3	Ruston sandy clay loam, 10 to 15 percent slopes, severely eroded.				
RfE	Ruston fine sandy loam, 15 to 25 percent slopes.				
SbA	Savannah loam, 0 to 2 percent slopes.	1½–5	6+	4 to 8 inches of loam over 1½ to 2 feet of clay loam; below is 1 to 2 feet of compact, brittle clay loam underlain by 2½ to 4 feet of fine sandy clay loam; formed in thick beds of acid Coastal Plain sands and clays; moderately well drained; internal drainage impeded by a fragipan at a depth of 18 to 30 inches; seasonally high, perched water table.	0–5 5–25 25–42 42–70
SbB	Savannah loam, 2 to 6 percent slopes.				
SbB2	Savannah loam, 2 to 6 percent slopes, eroded.				
SbC2	Savannah loam, 6 to 10 percent slopes, eroded.				
Sc	Sequatchie loam.	4–6	6+	6 to 12 inches of loam over 1½ to 2½ feet of silty clay loam; underlain by 2 to 3 feet of loam; formed in alluvium washed from soils derived from shale and sandstone.	0–6 14–32 32–72
SfB2	Shubuta fine sandy loam, 2 to 6 percent slopes, eroded.	(1)	6+	4 inches of fine sandy loam over 28 inches of silty clay that is faintly mottled in the lower part; underlain by 30 inches of mottled red and brown clay; formed in thick beds of stratified sand, silt, and clay marine sediments.	0–4 4–32 32–72
SfC	Shubuta fine sandy loam, 6 to 10 percent slopes.				
SfC2	Shubuta fine sandy loam, 6 to 10 percent slopes, eroded.				
SfD	Shubuta fine sandy loam, 10 to 15 percent slopes.				
SfD2	Shubuta fine sandy loam, 10 to 15 percent slopes, eroded.				
Sn	Stendal soils, local alluvium.	1–1½	4–8	6 inches of loam over 24 inches of mottled silt loam; underlain by 2 feet of mottled loam; contains thin lenses of sand; formed in alluvium washed from soils derived from shale and sandstone; somewhat poorly drained and receives seepage water.	0–7 7–30 30–42
StA	Stough loam, 0 to 2 percent slopes.	1–2	6+	4 to 12 inches of loam over 1 to 1½ feet of clay loam; below is 2 to 3 feet of fine sandy clay loam underlain by 1 to 3 feet of silt loam; formed in alluvium from the Coastal Plain uplands; somewhat poorly drained; internal drainage impeded by a fragipan; subject to occasional flooding.	0–5½ 5½–19 19–59 59–72+

See footnote at end of table.

County and their estimated physical properties—Continued

about the soils in the complexes and undifferentiated groups, see descriptions of soils of the same series mapped separately. The mis-soil complexes are those of the Iuka and Ochlockonee series (Io), those of the Ruston, Cuthbert, and Shubuta series (RtE, RxC, tachie, Leaf, and Iuka soils (Mk)]

Classification			Percentage passing sieve—			Permeability	Available water capacity	Reaction	Shrink-swell potential
USDA texture	Unified	AASHO	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 200 (0.074 mm.)				
						Inches per hour	*Inches per inch of depth*	*pH value*	
Fine sandy loam	SM	A–2	98–100	95–100	25–35	1. 5–3	0. 08–0. 12	5. 0	Low.
Fine sandy clay loam	SC or CL	A–4 or A–6.	98–100	95–100	45–55	1. 5–3	0. 08–0. 12	5. 0	Low to moderate.
Fine sandy loam	SM or SC	A–2 or A–4.	98–100	95–100	25–45	2–4	0. 08–0. 10	5. 0	Low.
Sandy loam	SM or SC	A–2	98–100	95–100	20–30	2–6	0. 06–0. 08	4. 5	Low.
Loam	ML	A–4	98–100	95–100	60–70	0. 8–2. 0	0. 08–0. 12	5. 5	Low.
Clay loam	ML or CL	A–4	95–100	90–100	60–70	0. 8–2. 0	0. 08–0. 12	5. 0	Low.
Clay loam	CL	A–4	98–100	95–100	60–70	0. 2–0. 8	0. 04–0. 08	5. 0	Low.
Fine sandy clay loam	SC or CL	A–4 or A–6.	98–100	95–100	60–70	0. 8–2. 0	0. 08–0. 12	4. 0	Low to moderate.
Loam	ML	A–4	98–100	95–100	50–60	0. 8–2. 0	0. 16–0. 20	5. 5	Low.
Silty clay loam	CL	A–7	98–100	95–100	85–95	0. 8–2. 0	0. 16–0. 20	5. 5	Moderate.
Loam	ML	A–4	98–100	95–100	60–70	0. 8–2. 0	0. 12–0. 16	5. 0	Low.
Fine sandy loam	ML	A–4	85–90	80–85	50–65	4–5	0. 04–0. 08	5. 0	Low.
Silty clay	CL or CH	A–7	95–100	90–95	80–90	0. 4–1. 5	0. 08–0. 12	5. 0	High.
Clay	CH	A–7	95–100	90–100	85–95	0. 4–1. 5	0. 08–0. 12	4. 5	High.
Loam	ML	A–4	98–100	95–100	50–60	0. 8–2. 0	0. 12–0. 16	5. 5	Low.
Silt loam	ML	A–4	95–100	90–95	80–90	0. 8–2. 0	0. 12–0. 16	5. 0	Low.
Loam	ML	A–4	98–100	95–100	55–65	0. 8–2. 0	0. 12–0. 16	5. 0	Low.
Loam	ML or CL	A–4	98–100	95–100	70–80	0. 8–2. 0	0. 08–0. 12	5. 0	Low.
Clay loam	ML or CL	A–4 or A–6.	98–100	95–100	80–90	0. 8–2. 0	0. 08–0. 12	5. 0	Low to moderate.
Sandy clay loam	ML or CL	A–4	98–100	95–100	55–65	0. 2–0. 8	0. 08–0. 10	4. 0	Low.
Silt loam	ML or CL	A–4	98–100	95–100	75–85	0. 2–0. 8	0. 08–0. 10	4. 0	Low.

TABLE 7.—*Engineering descriptions of the soils of Fayette*

[Miscellaneous land types, soil complexes, and undifferentiated soil groups are not listed in this table. For approximate information cellaneous land types are Gravel pit (Ga), Gullied land (Gu), Rock land (Rd), Sandy alluvial land (Sa), and Terrace escarpments (Tc); the RxC2, RxD, RxD2) and those of the Shubuta and Boswell series (ShC2, ShD2, and ShE); the only undifferentiated soil group is Man

Map symbol	Soil	Depth to seasonally high water table	Depth to bedrock	Brief description of soil and site	Depth from surface (typical profile)
		Feet	*Feet*		*Inches*
TmB2	Townley loam, 2 to 6 percent slopes, eroded.	(1)	1½–3	4 to 10 inches of loam over 1 to 2 feet of silty clay; formed in material weathered from level-bedded shale interbedded with sandstone in places.	0–5
TmC	Townley loam, 6 to 10 percent slopes.				5–26
TmC2	Townley loam, 6 to 10 percent slopes, eroded.				
TmD2	Townley loam, 10 to 15 percent slopes, eroded.				
TnB3	Townley silty clay loam, 2 to 6 percent slopes, severely eroded.				
TnC3	Townley silty clay loam, 6 to 10 percent slopes, severely eroded.				
TnD3	Townley silty clay loam, 10 to 15 percent slopes, severely eroded.				
Ty	Tyler loam.	1–2	6+	6 to 12 inches of loam over 1 to 3 feet of silt loam; underlain by 2 to 3 feet of mottled silty clay loam; formed in alluvium washed from soils derived from sandstone and shale; somewhat poorly drained; internal drainage impeded by a fragipan at a depth of 18 to 30 inches; seasonally high, perched water table.	0–8 11–22 22–72

[1] Deep.

TABLE 8.—*Engineering interpretations*

[Engineering interpretations are not given for miscellaneous land types, soil complexes, and undiffereniated units in this table, except undifferentiated groups, see soils of the series mapped separately. The miscellaneous land types are Gravel pit (Ga), Gullied land (Gu), series (RtE, RxC, RxC2, RxD, and RxD2) and those of the Shubuta and Boswell series (ShC2, ShD2, and ShE); the only undifferentiated soil

Soil series and map symbol	Suitability for winter grading	Suitability of soil material for—		Suitability as source of—		Soil features affecting engineering practices
		Road subgrade	Road fill	Topsoil	Sand and gravel	Highway location
Atkins soils, local alluvium (At).	Unsuitable	Fair to poor	Fair	Fair; high water table.	Unsuitable	High water table; locate gradeline 1 to 2 feet above high water mark.
Bibb soils (Bb)	Unsuitable	Fair	Fair	Fair; high water table.	Unsuitable	Locate gradeline 1 to 2 feet above high water mark.

See footnote at end of table.

County and their estimated physical properties—Continued

about the soils in the complexes and undifferentiated groups, see descriptions of soils of the same series mapped separately. The mis-soil complexes are those of the Iuka and Ochlockonee series (Lo), those of the Ruston, Cuthbert, and Shubuta series (RtE, RxC, tachie, Leaf, and Iuka soils (Mk)]

Classification			Percentage passing sieve—			Permeability	Available water capacity	Reaction	Shrink-swell potential
USDA texture	Unified	AASHO	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 200 (0.074 mm.)				
						Inches per hour	*Inches per inch of depth*	*pH value*	
Loam	ML	A–4	80–85	75–80	60–70	0. 8–2. 0	0. 12–0. 16	5. 0	Low.
Silty clay	CL or CH	A–7	95–100	90–95	85–90	0. 5–1. 5	0. 16–0. 20	5. 0	High.
Loam	ML	A–4	98–100	95–100	60–70	0. 5–1. 5	0. 08–0. 12	6. 0	Low.
Silt loam	CL	A–4	98–100	95–100	80–90	0. 5–1. 5	0. 08–0. 12	5. 0	Low.
Silty clay loam	CL	A–6	90–100	90–100	80–90	0. 2–0. 8	0. 08–0. 10	5. 0	Moderate.

for soils in Fayette County

for Iuka-Ochlockonee complex, local alluvium (Lo). For approximate interpretations for the soils of the other complexes and for Rock land (Rd), Sandy alluvial land (Sa), and Terrace escarpments (Tc); the complexes are those of the Ruston, Cuthbert, and Shubuta group is Mantachie, Leaf, and Iuka soils (Mk)]

Soil features affecting engineering practices—Continued						
Septic tanks [1]	Irrigation	Agricultural drainage	Waterways	Terraces and diversions	Farm ponds	
					Reservoir area	Embankment
High water table.	Moderate to slow infiltration; high water-holding capacity; nearly level.	High water table; slow infiltration and moderate to slow permeability in the subsoil.	Not needed	Not needed	Slow rate of seepage.	Low strength and stability.
High water table; frequent flooding.	Slopes of 0 to 2 percent; medium intake rate; high water-holding capacity; frequent flooding.	High water table; slow permeability.	Not needed	Not needed	Slow rate of seepage.	Low strength and stability.

TABLE 8.—*Engineering interpretations*

Soil series and map symbol	Suitability for winter grading	Suitability of soil material for—		Suitability as source of—		Soil features affecting engineering practices
		Road subgrade	Road fill	Topsoil	Sand and gravel	Highway location
Bibb soils, local alluvium (Bc).	Unsuitable	Fair	Fair	Fair; high water table.	Unsuitable	Locate gradeline 1 to 2 feet above high water table.
Boswell fine sandy loam (mapped only in complexes with Shubuta soils).	Poor	Poor	Poor	Poor	Unsuitable	Susceptible to sliding in cuts.
Cuthbert (mapped only in associations or complexes with Ruston and Shubuta soils).	Poor	Surface layer fair to good; subsoil poor (high shrink-swell potential).	Fair to poor	Unsuitable	Poor; high content of rock fragments.	Seepage in cuts; susceptible to sliding.
Enders (EcB3, EcC3, EcD3, EdB, EdB2, EdC, EdC2, EdD, EdD2).	Fair to poor	Poor	Poor to fair	Surface layer good.	Unsuitable	Underlain by shale at a depth of 3 to 5 feet.
Greenville (GcC3, GmA, GmB2, GmC2).	Fair	Fair to poor	Poor at a depth of 0 to 2½ feet; fair below.	Surface layer good.	Unsuitable	No limitation
Guin (GnD)	Good	Good	Good	Poor	Good for material for road construction.	No limitation
Hanceville (HaB2)	Fair	Good to fair	Good	Surface layer good.	Unsuitable	Gradeline 1 to 2 feet above underlying sandstone in most places.
Iuka silt loam (Ik)	Unsuitable	Fair	Fair to good	Good to a depth of 1½ to 2 feet.	Unsuitable	Locate gradeline 1 to 2 feet above high water mark.

See footnote at end of table.

for soils in Fayette County—Continued

Soil features affecting engineering practices—Continued						
Septic tanks [1]	Irrigation	Agricultural drainage	Waterways	Terraces and diversions	Farm ponds	
					Reservoir area	Embankment
High water table; receives seepage water.	Slopes of 0 to 2 percent; medium intake rate; high water-holding capacity.	High water table.	Not needed	Not needed	Slow rate of seepage.	Low strength and stability.
Very slow permeability.	High erodibility; very slow permeability; poor agricultural soil.	Not needed	High erodibility; cover of vegetation difficult to establish.	High erodibility	Slow rate of seepage.	Low strength and stability.
Slow permeability.	High erodibility; slow permeability; poor agricultural soil.	Not needed	High erodibility; cover of vegetation difficult to establish; rocks throughout soil profile.	High erodibility; shallow.	Slow rate of seepage.	Low strength and stability.
Moderate to slow permeability.	Moderate to low water-holding capacity; moderate intake rate; moderate to slow permeability.	Not needed	High erodibility; vegetation easily established; needs little shaping.	High erodibility.	Moderate to slow rate of seepage.	Moderate strength and stability.
Moderate permeability.	Slopes of 2 to 15 percent; moderate water-holding capacity; moderate intake rate.	Not needed	Moderate erodibility; vegetation easily established; moderate water-holding capacity; needs little shaping.	Moderate erodibility.	Rapid rate of seepage.	High strength and stability.
Very rapid permeability.	Poor agricultural soil; very low water-holding capacity; rapid intake rate; rapid to very rapid permeability.	Not needed	Not recommended.	Not recommended; 6 to 50 percent slopes.	Very rapid seepage.	Low strength and stability.
Moderate permeability.	Slopes of 2 to 10 percent; moderate water-holding capacity; moderate intake rate.	Not needed	Moderate erodibility; vegetation easily established; moderate water-holding capacity; needs little shaping.	Moderate erodibility.	Moderate rate of seepage.	High strength and stability.
Moderate permeability; subject to occasional flooding.	Slopes of 0 to 2 percent; high water-holding capacity; moderate intake rate.	Not needed; frequent overflow.	Not needed	Not needed	Slow rate of seepage.	Low strength and stability.

TABLE 8.—*Engineering interpretations*

Soil series and map symbol	Suitability for winter grading	Suitability of soil material for—		Suitability as source of—		Soil features affecting engineering practices
		Road subgrade	Road fill	Topsoil	Sand and gravel	Highway location
Iuka-Ochlockonee complex, local alluvium (Io).	Unsuitable	Fair	Fair to good	Good to a depth of 1½ to 3 feet.	Unsuitable	Gradeline 1 to 2 feet above seasonally high water table.
Leadvale (LdB)	Poor	Poor; seasonally high water table.	Fair	Surface layer fair.	Unsuitable	Seepage above the fragipan.
Leaf (mapped only in an undifferentiated unit with Mantachie and Iuka soils).	Unsuitable	Poor; high water table; plastic subsoil.	Poor	Poor	Unsuitable	Gradeline 1 to 2 feet above high water mark.
Magnolia (MaC2)	Fair	Poor to fair	Good	Surface layer good.	Unsuitable	No limitation
Mantachie fine sandy loam (Mc).	Unsuitable	Poor; high water table.	Fair to good	Fair to a depth of 1 foot.	Unsuitable	Locate gradeline about 2 feet above high water mark.
Mantachie soils, local alluvium (Mh).	Unsuitable	Poor; high water table.	Fair to good	Fair to a depth of 1 foot.	Unsuitable	Gradeline 1 to 2 feet above seasonally high water table.

See footnote at end of table.

for soils in Fayette County—Continued

Soil features affecting engineering practices—Continued						
Septic tanks [1]	Irrigation	Agricultural drainage	Waterways	Terraces and diversions	Farm ponds	
					Reservoir area	Embankment
Water table at a depth of 1½ to 2½ feet; receives seepage water.	Slopes of 0 to 2 percent; high water-holding capacity; moderate intake rate.	Not needed-----	Not needed-----	Not needed-----	Slow rate of seepage.	Low strength and stability.
Fragipan at a depth of 20 to 30 inches; subject to seepage water.	Slopes of 2 to 6 percent; low water-holding capacity; moderate intake rate.	Not needed-----	Moderate erodibility; fragipan at a depth of 20 to 30 inches; low water-holding capacity; vegetation easily established; needs little shaping.	Moderate erodibility; diversions may be needed to cut off seepage water.	Slow rate of seepage.	Moderate strength and stability.
High water table; subject to flooding.	Slopes of 0 to 2 percent; poor agricultural soil; intake rate moderate to slow; poorly drained.	High water table; very slow permeability; outlets difficult to establish.	Not needed-----	Not needed-----	Slow rate of seepage.	Low strength and stability.
Moderate permeability.	Slopes of 2 to 10 percent; moderate intake rate; moderate water-holding capacity.	Not needed-----	Moderate erodibility; vegetation easily established; moderate water-holding capacity; needs shaping.	Moderate erodibility.	Rapid rate of seepage.	High strength and stability.
Water table at a depth of 6 to 18 inches; subject to flooding.	Slopes of 0 to 2 percent; moderate water-holding capacity; moderate to rapid permeability; moderate intake rate.	Frequent flooding; seasonally high water table; difficult to establish adequate outlets.	Not needed-----	Not needed-----	Slow rate of seepage.	Low strength and stability.
Water table at a depth of 6 to 18 inches; receives seepage water.	Slopes of 0 to 2 percent; moderate water-holding capacity; moderate to rapid permeability; moderate intake rate; high water table.	Seasonally high water table; receives seepage water.	Not needed-----	Not needed-----	Slow rate of seepage.	Low strength and stability.

TABLE 8.—*Engineering interpretations*

Soil series and map symbol	Suitability for winter grading	Suitability of soil material for—		Suitability as source of—		Soil features affecting engineering practices
		Road subgrade	Road fill	Topsoil	Sand and gravel	Highway location
Mashulaville (Mm)	Unsuitable	Poor; high water table.	Fair	Poor	Unsuitable	Gradeline 1 to 2 feet above seasonally high water table.
Montevallo (MoC, MoC3, MoD, MoD3, MoE, MoE3).	Fair	Fair to poor	Fair; bedrock near the surface.	Unsuitable	Unsuitable	Seepage in cuts and possible slides; bedrock near the surface.
Myatt (My)	Unsuitable	Poor; high water table.	Fair	Fair; high water table.	Unsuitable	Gradeline 1 to 2 feet above high water mark.
Ochlockonee (Oc, Od)	Poor to unsuitable.	Fair	Fair to good	Good to a depth of 2 to 3 feet.	Unsuitable	Locate gradeline 1 to 2 feet above high water mark.
Ora (OfB2, OfC, OfC2, OfD2, OrC3).	Fair to poor	Fair	Good	Surface layer good.	In places underlain by gravel at a depth of 5 to 8 feet.	Seepage in cuts above the fragipan.
Pheba (Pb)	Unsuitable	Poor to fair	Fair to good	Surface layer fair.	Unsuitable	Locate gradeline 1 to 2 feet above high water table.
Philo soils, local alluvium (Ph).	Poor	Fair	Fair to good	Good to a depth of 1½ to 2 feet.	Unsuitable	Gradeline 1 to 2 feet above high water mark.

See footnote at end of table.

for soils in Fayette County—Continued

Soil features affecting engineering practices—Continued						
Septic tanks [1]	Irrigation	Agricultural drainage	Waterways	Terraces and diversions	Farm ponds	
					Reservoir area	Embankment
Seasonally high water table; water stands on the surface for long periods.	Slopes of 0 to 2 percent; high water table; slow to very slow permeability; poorly drained.	Seasonally high water table; outlets difficult to establish; a fragipan is at a depth of 12 to 20 inches; slow to very slow permeability; poorly drained.	Not needed-----	Not needed-----	Slow rate of seepage.	Moderate strength and stability.
Shale at a depth of 6 to 24 inches.	Shale at a depth of 6 to 24 inches.	Not suited------	Shale at a depth of 6 to 24 inches.	Shale at a depth of 6 to 24 inches.	Slow rate of seepage.	Low strength and stability.
High water table; subject to occasional flooding.	Slopes of 0 to 2 percent; poor agricultural soil; medium to slow intake rate; slow permeability.	High water table; slow permeability; outlets difficult to establish.	Not needed-----	Not needed-----	Slow rate of seepage.	Moderate strength and stability.
Moderate permeability; subject to frequent overflow.	Slopes of 0 to 2 percent; high water-holding capacity; moderate intake rate.	Not needed; frequent overflow.	Not needed-----	Not needed-----	Slow rate of seepage.	Low strength and stability.
Fragipan at a depth of 24 to 32 inches.	Slopes of 2 to 15 percent; low water-holding capacity; moderate to rapid intake rate; moderate permeability to fragipan.	Not needed-----	Moderate erodibility; fragipan at a depth of 24 to 32 inches; vegetation easily established; needs little shaping; low water-holding capacity.	Moderate erodibility.	High rate of seepage in most places.	High strength and stability.
High water table; fragipan at a depth of 18 to 26 inches.	Slopes of 0 to 2 percent; high water table; moderate intake rate; moderate to slow permeability.	Fragipan at a depth of 18 to 26 inches; high water table; moderate to slow permeability; outlets difficult to establish.	Not needed-----	Not needed ----	Slow rate of seepage.	Moderate strength and stability.
Moderate permeability; seasonally high water table at a depth of 1½ to 2 feet; receives seepage water.	Slopes of 0 to 2 percent; high water-holding capacity; moderate intake rate.	Not needed-----	Not needed-----	Not needed-----	Slow rate of seepage.	Low strength and stability.

TABLE 8.—*Engineering interpretations*

Soil series and map symbol	Suitability for winter grading	Suitability of soil material for—		Suitability as source of—		Soil features affecting engineering practices
		Road subgrade	Road fill	Topsoil	Sand and gravel	Highway location
Prentiss (PrA, PrB2)	Poor	Fair	Good	Surface layer good.	Unsuitable	Seepage in cuts above fragipan; perched water table.
Ruston (RfA, RfB, RfB2, RfC, RfC2, RfD, RfD2, RfE, RsC3, RsD3).	Good	Fair	Good	Surface layer good.	In places underlain by sand and gravel at a depth of 5 to 6 feet.	No limitation
Savannah (SbA, SbB, SbB2, SbC2).	Poor	Fair	Good	Surface layer good.	Unsuitable	Seepage in cuts above fragipan.
Sequatchie (Sc)	Fair	Poor; fair below a depth of 2½ feet.	Fair	Surface layer good.	Unsuitable	Seasonally high water table at a depth of 6 to 8 feet.
Shubuta (SfB2, SfC, SfC2, SfD, SfD2).	Poor	Poor	Fair to poor	Poor	Unsuitable	Seepage in cuts; susceptible to sliding.
Stendal soils, local alluvium (Sn).	Poor	Fair	Fair to good	Fair to a depth of 1 foot.	Unsuitable	Gradeline 1 to 2 feet above seasonally high water table.

See footnote at end of table.

for soils in Fayette County—Continued

Soil features affecting engineering practices—Continued						
Septic tanks [1]	Irrigation	Agricultural drainage	Waterways	Terraces and diversions	Farm ponds	
					Reservoir area	Embankment
Fragipan at a depth of 20 to 30 inches.	Slopes of 0 to 6 percent; low water-holding capacity; moderate intake rate; moderate permeability to fragipan; slow permeability in fragipan.	Not needed	Moderate erodibility; fragipan at a depth of 20 to 30 inches; vegetation easily established; low water-holding capacity.	Moderate erodibility.	Slow rate of seepage.	High strength and stability.
Moderate to rapid permeability.	Slopes of 0 to 25 percent; low water-holding capacity; moderate to rapid intake rate.	Not needed	Moderate erodibility; deep cave-type gullies; vegetation easily established; low water-holding capacity; needs little shaping.	Moderate erodibility.	Rapid rate of seepage.	High strength and stability.
Fragipan at a depth of 20 to 30 inches; seasonally high, perched water table.	Slopes of 0 to 10 percent; low water-holding capacity; moderate intake rate; moderate permeability to fragipan; slow permeability in fragipan.	Not needed	Moderate erodibility; fragipan at a depth of 20 to 30 inches; vegetation easily established; low water-holding capacity; needs little shaping.	Moderate erodibility.	Slow rate of seepage.	High strength and stability.
Moderate permeability.	Slopes of 0 to 2 percent; moderate intake rate; moderate water-holding capacity; moderate permeability.	Not needed	Moderate erodibility; moderate water-holding capacity; vegetation easily established; needs shaping in most places.	Moderate erodibility.	Moderate rate of seepage.	Moderate strength and stability.
Moderate to slow permeability.	Slopes of 2 to 15 percent; moderate intake rate; moderate to slow permeability; poor agricultural soil.	Not needed	High erodibility; difficult to establish cover of vegetation.	High erodibility; moderate to slow permeability; poor agricultural soil.	Slow rate of seepage.	Low strength and stability.
Seasonally high water table at a depth of 12 inches to 1½ feet; receives seepage water.	Slopes of 0 to 2 percent; moderate water-holding capacity; moderate permeability; moderate to rapid intake rate; receives seepage water.	Seasonally high water table; moderate permeability; receives seepage water.	Not needed	Not needed	Slow rate of seepage.	Low strength and stability.

TABLE 8.—*Engineering interpretations*

Soil series and map symbol	Suitability for winter grading	Suitability of soil material for —		Suitability as source of—		Soil features affecting engineering practices
		Road subgrade	Road fill	Topsoil	Sand and gravel	Highway location
Stough (StA)	Unsuitable	Poor	Fair	Surface layer fair.	Unsuitable	Locate gradeline 1 to 2 feet above high water mark.
Townley (TmB2, TmC, TmC2, TmD2, TnB3, TnC3, TnD3).	Fair to poor	Poor	Fair to good	Poor; plastic and shallow over bedrock.	Unsuitable	Underlain by shale at a depth of 15 to 36 inches.
Tyler (Ty)	Unsuitable	Fair to poor	Good	Fair	Unsuitable	Locate gradeline 1 to 2 feet above high water mark.

[1] Generally, soils subject to overflow and those slowly or very slowly permeable are not suitable as fields for septic tanks.

Engineering Classification Systems

Agricultural scientists of the U.S. Department of Agriculture (USDA) classify soils according to texture. Their system is the textural classification used by the Soil Conservation Service in soil surveys. In some ways this system of naming textural classes is comparable to the two systems used by engineers for classifying soils; that is, the system of the American Association of State Highway Officials (AASHO) and the Unified system. Following is a description of the classification systems used by engineers.

AASHO Classification System.—Most highway engineers classify soil materials in accordance with the system approved by the American Association of State Highway Officials (AASHO) (*2*). In this system soil materials are classified in seven principal groups. The groups range from A–1, consisting of gravelly soils of high bearing capacity, to A–7, consisting of clay soils having low strength and stability when wet. In table 7 these groups are estimated for each soil in the county.

Within each group, the relative engineering value of the soil material is indicated by a group index number. Group index numbers range from 0 for the best material to 20 for the poorest. The group index number is shown in parentheses following the AASHO classification in the next to last column in table 6. Since test data are not available for all the soils of the county, the group classifications given in table 7 are estimated and the group index is not given.

Unified Classification System.—Some engineers prefer to use the Unified soil classification system (*11*). In this system soil materials are identified as coarse grained (eight classes), fine grained (six classes), and highly organic. The classification of each sample tested, according to the Unified system, is given in the last column of table 6.

Engineering Test Data

To help evaluate the soils for engineering purposes, samples from 18 soil profiles that represent 7 extensive soil series in the county were tested in accordance with standard procedures (*2*, *9*). The results of the tests are given in table 6. All samples were obtained at a depth of less than 6 feet. Therefore, the test data may not be

for soils in Fayette County—Continued

Soil features affecting engineering practices—Continued						
Septic tanks [1]	Irrigation	Agricultural drainage	Waterways	Terraces and diversions	Farm ponds	
					Reservoir area	Embankment
High water table; subject to occasional overflow.	Slopes of 0 to 2 percent; high water table; moderate intake rate; moderate to slow permeability; subject to occasional flooding.	Fragipan at a depth of 16 to 30 inches; high water table; moderate to slow permeability; subject to occasional flooding; outlets difficult to establish.	Not needed-----	Not needed-----	Slow rate of seepage.	Moderate strength and stability.
Moderate to slow permeability; shale at a depth of 15 to 36 inches.	Low water-holding capacity; moderate intake rate; moderate to slow permeability.	Not needed-----	High erodibility; vegetation easily established; shale at a depth of 15 to 36 inches.	High erodibility; shale at a depth of 15 to 36 inches.	Slow rate of seepage.	Moderate strength and stability.
High water table; subject to occasional overflow; a fragipan is at a depth of 15 to 30 inches.	Slopes of 0 to 2 percent; high water table; moderate intake rate; moderate to slow permeability; subject to occasional flooding; somewhat poorly drained.	Fragipan at a depth of 15 to 30 inches; high water table; moderate to slow permeability; subject to occasional overflow.	Not needed-----	Not needed-----	Slow rate of seepage.	Moderate strength and stability.

adequate for estimating the characteristics of soil material where a deep cut has to be made.

The engineering soil classifications given in table 6 are based on data obtained by mechanical analyses and by tests to determine the liquid limits and plastic limits. Mechanical analyses were made by combined sieve and hydrometer methods. The percentages of clay obtained by the hydrometer method should not be used in naming textural classes of soils.

The tests for liquid limit and plastic limit measure the effect of water on the consistence of the soil material. As the moisture content of a clayey soil increases from a very dry state, the material changes from a semisolid to a plastic state. As the moisture content is further increased, the material changes from a plastic to a liquid state. The plastic limit is the moisture content at which the soil material passes from a semisolid to a plastic state. The liquid limit is the moisture content at which the material passes from a plastic to a liquid state. The plasticity index is the numerical difference between the liquid limit and the plastic limit. It indicates the range of moisture content within which a soil material is in a plastic condition.

Table 6 also gives compaction (moisture-density) data for the tested soils. If a soil material is compacted at successively higher moisture contents, assuming that the compactive effort remains constant, the density of the compacted material will increase until the optimum moisture content is reached. After that, the density decreases with increase in moisture content. The highest dry density obtained in the compaction test is termed "maximum dry density." Moisture-density data are important in earthwork, for as a rule, optimum stability is obtained if the soil is compacted to about the maximum dry density when it is at approximately the optimum moisture content.

Engineering Interpretations of the Soils

Table 7 gives the USDA texture and the estimated Unified and AASHO classifications of the soil material in significant layers of a modal profile for each series. The texture (grain size) of the material in one layer may vary considerably from that in another layer of the same soil. Because the engineering classifications given in this table are for a modal profile, they may not apply to all the soils in the series.

The estimated permeability of the soil material in each important layer is also given in table 7. It is an estimate of the probable rate of water percolation through soil material that is not compacted. The rate is expressed in inches per hour.

The column that shows available water capacity indicates the amount of capillary water in the soil when that soil is wet to field capacity. The amount of water indicated will wet the soil material described to a depth of 1 inch without deeper percolation if the soil is air dry.

The shrink-swell potential indicates the volume change of the soil material to be expected when the content of moisture changes. It is estimated primarily on the basis of the amount and type of clay present. In general, soils classified as CH and A–7 have high shrink-swell potential. Clean sands and gravels (single grain) and soil material containing only a small amount of nonplastic or slightly plastic fines, as well as most other nonplastic or slightly plastic soil material, have low shrink-swell potential.

Table 8 rates the soils according to their suitability for winter grading. Bedrock near the surface in some areas and the gravelly or sandy underlying material in other areas permit the construction of highways in winter, provided the compaction standards of the soil material can be maintained.

The suitability of the soils for road subgrade is also rated in table 8. The subsoil of the Boswell, Cuthbert, Leaf, and Shubuta soils is high in clay and has high shrink-swell potential upon wetting and drying. Therefore, material from these soils is not suitable as subgrade for roads. If such material is used, contraction and expansion could cause the pavement to warp and crack. These clayey soils can be used in fill areas if they are covered by a thick layer of foundation material that has low shrink-swell potential. The sandy loams, loamy sands, gravelly sandy loams, and sand and gravel of the Tuscaloosa formation, on the other hand, are excellent for foundations and for subgrade for roads because the soil material has low shrink-swell potential.

The ratings given for suitability as a source of topsoil indicate whether the soil material is suitable for promoting the growth of plants on embankments, slopes, and ditches along highways. Topsoil should be fertile. It should also be free of stones and large pebbles.

Most of the soils are unsuitable as a source of sand or gravel. The Guin soils, however, contain material that is good for road construction. A few other soils have gravel below a depth of 5 feet.

Rock land and the Montevallo and Townley soils are shallow over bedrock. Therefore, considerable rock may have to be excavated when roads are built across these soils. Seepage occurs in cuts, and there is danger of slides where deep cuts are made in the Montevallo, Townley, and other soils that are underlain by thinly bedded shale. Bedrock is not a problem in the Coastal Plain areas of the county, because it is generally at a great depth. The Coastal Plain sediments are weakly consolidated, and they make a good foundation for roads.

Many of the soils have a perched water table during part of the year. This may result in a decrease in the bearing capacity of the foundation soil below the pavement and may cause deterioration of the pavement. Therefore, it is necessary to determine if interceptor ditches and underdrains are needed to control excess water.

Seepage in the back slopes of cuts is a problem where the soils have a fragipan or where they contain impervious strata of clay or clayey material. This may result in slumping or sliding of the overlying material. Slides are likely to occur when deep cuts are made in the Cuthbert, Boswell, and Shubuta soils (fig. 24) and in other soils where permeable soil material is underlain by an impermeable layer.

The low bottom lands are flooded each year. A continuous embankment is required to keep highways constructed in such areas above the level reached by high water. In most places suitable material for use in these embankments may be obtained from the nearby terraces and uplands.

In some low, wet areas where the soil material is high in organic matter, it may be necessary to undercut and then backfill. This prevents settling or shrinkage that will cause the pavement to warp or crack.

Suitability of the Soils for Septic Tanks

Septic tanks are used for sewage disposal in rural areas. Features that affect the suitability of the soils for septic tanks and disposal fields are given in table 8.

The absorptive capacity of the soils determines how long a private sewage disposal system will work and how well it will work (*3*). The effluent from septic tanks must be absorbed and filtered by the soils. This filtering process removes odors, prevents contamination of the ground water, and prevents the concentration of unfiltered effluent that may reach the surface. Improperly filtered effluent that reaches the surface causes offensive odors, provides a breeding ground for flies, and spreads disease.

Poorly drained soils are saturated with water during wet weather. At times, for long periods after a heavy

***Figure 24.*—An area where a slide has occurred in Ruston-Cuthbert association, 15 to 50 percent slopes. Slipping and sliding of the soil material are major problems in building and maintaining roads in Fayette County.**

rain, no available space is left in the soils for absorption of the effluent from septic tanks. In poorly drained soils, a filter field that functions well during dry weather may fail to function during wet weather.

Where a layer of soil material that has a very slow absorption rate is near the surface, the effluent from the septic tank is likely to rise to the surface, even during dry periods. During wet weather, the filter field is usually boggy.

Other filter fields for septic tanks have failed where the area is too steep, the water table is seasonally high, the soil is shallow over bedrock, a cemented layer of soil material is near the surface, or the area is flooded occasionally by water from a nearby stream.

Following are some of the more important things to keep in mind in selecting a site for a septic tank:

1. The permeability of the soil ought to be moderate to rapid.
2. The level of the ground water should be at least 4 feet below the surface during the wettest season.
3. Rock formations or other layers of impervious material should be at a depth of more than 4 feet.
4. The slope of the ground surface is not of great importance, but it ought to be less than 10 percent.
5. Distance to a stream or other bodies of water ought to be at least 50 feet.
6. A filter field should not be installed in soils that are subject to flooding.

Soil Conservation Engineering

In the following paragraphs are discussed drainage, terracing, and farm ponds—major practices used in conservation engineering in this county to protect and improve the soils. Also discussed briefly is irrigation. If one of these practices is planned, a local representative of the Soil Conservation District should be consulted. It will help also to study the engineering properties of the soils as described in tables 7 and 8.

Drainage.—A good drainage system is essential if the soils of bottom lands are to be used effectively. Much has been done to improve the drainage in the county, but additional drainage systems are needed. The drainage system must be maintained if it is to operate efficiently.

An adequate outlet is an essential part of the drainage system. In some areas creeks and rivers provide suitable outlets, but ditches must be constructed in other areas. The present outlets may need to be deepened and cleared of brush and other vegetation to assure proper drainage.

Secondary drainage ditches are also an important part of the drainage system. They generally have a flat bottom, a minimum depth of 2½ feet, and a minimum side slope of 1½:1. These ditches carry water from V-type and W-type ditches to an outlet.

V-type and W-type ditches serve as field drains and carry surface water to the secondary drainage ditches. They generally have a minimum depth of 1 foot and a minimum side slope of 3:1. V-type and W-type ditches are easily maintained, and they can be crossed by farm machinery. V-type ditches are normally used in well-defined draws. W-type ditches are constructed on broad flats and should follow the natural drainage pattern. They consist of two parallel channels with the spoil spread between the channels. The ridge of the spoil can be used as a field road.

Diversion ditches are used to intercept seepage water at or near the base of slopes. They also protect low areas from runoff from surrounding areas by diverting the water into a suitable outlet.

Terracing.—Terraces are needed on gently sloping to moderately steep areas that are cultivated. The terrace system needs to be planned and laid out so that the normal operation of farm equipment will be facilitated and so that the terrace can be maintained. Drainage back of the terrace should be from the ridgetop to field borders or draws that are protected by vegetation. The outlet should be established before the terraces are installed.

If a terrace system that will be effective is to be laid out and constructed, the area must first be smoothed. This is done by removing hedgerows, old terraces, and other obstructions. A system of parallel terraces can be used if the topography is uniform. Parallel terraces permit better row alinement and more efficient operation of modern farm machinery than other types.

Farm ponds.—On many farms, ponds are needed for watering livestock and for helping provide more efficient grazing in the present pastures. The ponds are valuable for fishing and recreation. They also provide an emergency supply of water for the farmstead. A suitable pond can be constructed by impounding water in a natural draw, by using earthfill embankments, or by excavating a pit or dugout pond. Generally, a pit or dugout pond is constructed in wet areas that are nearly flat. Ponds hold water satisfactorily in most places in the county. However, an area in the northwestern part of the county and a small area near Berry are not suitable for ponds. Investigation of the proposed site is needed wherever a pond is to be constructed.

Irrigation.—Features that affect the suitability of the soils for irrigation are given in table 8. For the soils suitable for irrigation, the best irrigation system to use is indicated under the capability units in the section "Management by Capablity Units."

Genesis, Morphology, and Classification of Soils

Soil is a function of plant and animal life, climate, parent material, topography, and time. The nature of the soil at any point on the earth depends upon the combination of the five major soil-forming factors at that point. All five of these factors come into play in the genesis of every soil. The relative importance of each differs from place to place; sometimes one factor is more important, and sometimes another.

Climate and vegetation are the active factors of soil genesis. They act on the parent material and change it to a natural body that has definite soil characteristics. The effects of climate and vegetation on the parent material are conditioned by the topography, or relief. Relief affects surface drainage, the amount of water that percolates through the soil, the rate of erosion, and the kind of vegetation that grows on the soil. The nature of the parent material also affects the kind of soil profile that is formed. Time is needed for changing the parent material into a soil. Normally, a long interval is required for the development of distinct soil horizons.

The factors of soil genesis are so closely related in their effects on the soil that few generalizations can be made regarding the effect of any one factor acting alone. The interrelationship of the factors is so complex that many of the processes that take place in the development of soils are unknown.

Parent material.—Parent material is the unconsolidated mass from which a soil develops. It is largely responsible for the chemical and mineralogical composition of soils. The parent materials of the soils in this county are of three main kinds: (1) material that is residual from the weathering of rocks in place; (2) material that is residual from the weathering of unconsolidated beds of sands, silts, and clays of the Coastal Plain; and (3) material transported by water or gravity and laid down as unconsolidated deposits of clay, silt, and sand. The material in the first two classes is related directly to the underlying material from which the soils formed. The material in the third class is related to the soils from which it washed or rolled, but not necessarily to the underlying material in the place where it is deposited.

The parent material that weathered in place consists of residuum from consolidated sedimentary rocks of the Appalachian Plateau and from unconsolidated beds of sands, silts, and clays of the Coastal Plain. In the eastern one-third of the county, the bedrock is mainly shale, but the shale is interbedded with sandstone in places. In the western two-thirds of the county, the underlying material consists of thick beds of marine deposits of acid sand, silt, and clay estimated to be 1,000 feet thick (*1*). The line of demarcation between the areas of shale and sandstone and the areas of marine deposits is not clear in all places. This is because Coastal Plain deposits overlie material weathered from sandstone and shale in places. Also, there are small, isolated areas of Coastal Plain deposits on some of the high ridgetops in the eastern one-third of the county.

The soils along the larger streams in the county formed in alluvium and in other material that has been transported and deposited by streams. Much of this alluvial material weathered from rocks of the nearby uplands, but some of it weathered from sandstone and shale or from sedimentary deposits of sand, silt, and clay of the uplands to the north. The soils on first bottoms have a weakly developed profile; they are still receiving new soil material. In contrast, soils on the older and slightly higher terraces and benches have been in place long enough for distinct horizons to have developed. Soils formed in old colluvium on foot slopes have also been in place long enough for distinct horizons to have developed. Along drainageways throughout the uplands are narrow strips of local alluvium that has not been modified by soil-forming processes.

Climate.—Climate as a genetic factor affects the physical, chemical, and biological relationships in the soil, primarily through the influence of precipitation and temperature. Water dissolves minerals, supports biological activity, and transports minerals and organic residue through the soil profile. The amount of water that actually percolates through the soil over a broad area depends mainly upon the amount and intensity of rainfall, on the relative humidity, and on the length of the frost-free period. The rate of downward percolation is also affected by the physiographic position and permeability of the soils. Temperature influences the kinds and growth of plants and animals in and on the soils and the speed of physical and chemical reaction in the soils. Variations in the microclimate cause certain characteristics of the soils to differ from those of soils developed under the prevailing macroclimate.

This county has a temperate climate. The summers are usually long, and there are relatively few breaks in the heat during midsummer. From June 1 through September 30, the average daily maximum temperature is 90°, and the average daily minimum temperature is 64°. The winters are fairly short. Some are mild, but others are cold. The soils are frozen for only a short period at a time; therefore, freezing and thawing have had little effect on weathering and on soil-forming processes in this county. The average length of the growing season is 210 days. The latest frost in spring occurs about March 25, and the first frost in fall occurs about October 25.

The average annual rainfall is 53 inches. The rainfall is well distributed throughout the year. The soils are moist and are subject to leaching during a large part of the year. As water moves through the profile, much of the soluble material is carried with it. Also, soil colloids are translocated in the soil by the movement of water.

Plant and animal life.—Trees, grass, earthworms, micro-organisms, and other forms of plant and animal life on and in the soils are active in the formation of soils. The kinds and numbers of plants and animals that live on and in the soil are determined largely by the climate, but to varying degrees, by the kind of parent material and relief and by the age of the soil.

Micro-organisms are indispensable in the development of soils. Bacteria, fungi, and other micro-organisms aid in weathering rock and in decomposing organic matter. The larger plants serve to alter the microclimate of the soils, to supply organic matter, and to transfer elements from the subsoil to the surface layer.

Not much is known about the fungi and micro-organisms in the soils of this county, except that they are largely confined to the uppermost few inches of soil material. Earthworms and other small invertebrates are most active in the surface layer, where they carry on a slow but continual cycle of soil mixing.

The native vegetation in the county was deciduous forest, which stimulated leaching and accelerated the development of soils. The dominant hardwoods on the ridgetops and side slopes were oak and hickory. Yellow-poplar, sweetgum, white oak, white ash, white hickory, and red maple grew in the draws. Loblolly and shortleaf pine were the dominant species of pine in the western two-thirds of the county, and loblolly and Virginia pine were the main species of pine in the eastern one-third of the county.

On the well-drained bottom lands, the dominant trees were river birch, red oak, white oak, white ash, loblolly pine, hackberry, red maple, and sycamore. The common trees on areas of poorly drained bottom lands were sweetgum, red maple, green ash, willow, water oak, willow oak, sweetbay, and swamp red oak. Tupelo gum and swamp blackgum grew in areas where water stood on the surface most of the year.

Man's activities as a soil-forming factor are many sided. In his agricultural endeavors he effectively modifies the vegetational environment brought about by plants, by fer-

tilizing the soils and by cultivating and harvesting the crops. As man changes the cover of growing plants, erosion may be accelerated. This, in turn, may modify the texture of the surface layer and change the tilth of the soils.

Topography.—The topography of the county is determined largely by the underlying bedrock, the geologic history of the region, and the effect of dissection by streams. Topography influences the formation of soils through its effect on moisture relations, erosion, temperature, and the cover of growing plants. On steep slopes rainfall runs off faster than in nearly level areas. Therefore, less water soaks into the soils, and there is less leaching. The hazard of erosion becomes greater as the slope increases. The influence of topography is modified by the other four soil-forming factors.

The slopes in Fayette County range from 0 to 50 percent. The Enders, Greenville, Hanceville, and most of the Ruston soils mapped in this county have slopes of less than 15 percent, and they have a deep, well-expressed profile. In the steeper areas the effects of topography tend to cause geologic removal of the soil material about as fast as the material accumulates, and many of the steeper soils, such as the Montevallo and Cuthbert, have a thin, weakly expressed profile. In contrast, the topography of the flat stream valleys has caused the deep soils to form in soil material deposited by slow-moving floodwaters.

Time.—Time is required for the formation of soils. The length of time needed for the development of a profile depends on the kind of parent material and on many other factors. Fine-textured parent material develops into a soil more slowly than coarse-textured parent material. Generally, less time is needed for a soil to develop in a humid, warm region where the vegetation is luxuriant than in a dry or cold region where the vegetation is scanty.

The age of the soils of this county ranges from young for soils that have little or no profile development to old for soils that have a thick, well-developed profile. A soil is considered young or immature if it does not have a profile with well-developed, genetically related horizons. Young soils have some characteristics of their parent material. In this county the young soils are on first bottoms and on steep hillsides. The soils of the Ochlockonee, Iuka, and Bibb series are examples of young soils formed in alluvium on first bottoms. In these soils the soil material has been in place for only a short time. It has not been changed enough by the soil-forming factors for a profile with well-defined, genetically related horizons to form. In places soil material is still being deposited on these soils.

The soils of the Montevallo series are examples of young soils formed on steep hillsides. The Montevallo soils do not have genetically related horizons, because the soil material is removed by geologic erosion about as fast as it accumulates.

A mature, or old, soil is considered to have reached equilibrium with its environment. It has a well-developed profile with genetically related horizons. The soil material in mature soils bears little resemblance to the material in which the soils formed. Such mature soils are the Enders, Hanceville, and Greenville, which are nearly level to moderately steep and are mainly on uplands and high stream terraces.

Classification of Soils

Soils may be classified in different ways to bring out their relationship to one another. The categories of classification commonly used in the field are soil series and soil type. These categories are defined in the section "How This Soil Survey Was Made."

Soil series are grouped into higher categories called soil orders and great soil groups. All three soil orders—zonal, intrazonal, and azonal—are represented in this county.

The soils in the zonal order have well-developed profile characteristics that reflect the influence of the active factors of soil formation—climate and plant and animal life, chiefly vegetation. In this county the Red-Yellow Podzolic soils and the Reddish-Brown Lateritic soils are in the zonal order.

The soils of the intrazonal order have more or less well-developed soil characteristics that reflect the dominating influence of some local factor of relief or parent material over the normal effect of climate and vegetation. The intrazonal soils in this county are members of the Planosol and Low-Humic Gley great soil groups. They are nearly level and are somewhat poorly drained or poorly drained. They formed on uplands, on stream terraces, and on first bottoms.

The soils in the azonal order do not have a well-developed B horizon; their youth, parent material, or relief have prevented the development of definite profile characteristics. The azonal soils in this county are members of the Alluvial, Lithosol, and Regosol great soil groups.

The soils of a few soil series in this county have some characteristics of two great soil groups. These soils are grouped with the great soil group they most nearly resemble and are classified as intergrading toward the other great soil group. For example, soils of the Alluvial great soil group that have some characteristics of soils in the Low-Humic Gley great soil group, such as excessive wetness, are classified as Alluvial soils intergrading toward the Low-Humic Gley soils.

Table 9 lists the soil series by soil orders and great soil groups and gives some of the distinguishing characteristics of the soils in each series. A detailed description of a typical profile is given for each series under the discussion of the great soil groups.

Red-Yellow Podzolic soils

Red-Yellow Podzolic soils are a group of soils that have a thin, O2 horizon of litter and acid humus; a thin organic-mineral A1 horizon; a thicker, light-colored, leached A2 horizon; a thick, red, yellowish-red, or yellowish-brown, more clayey B horizon; and relatively sandy, more or less siliceous parent material. Coarse, reticulate streaks or mottles of red, yellow, brown, and light gray are characteristic of the deep horizons where the parent material is thick.

In this county most of the soils of this great soil group have been cultivated. The A1 and A2 horizons have been mixed in tillage, and the light-colored, leached A2 horizon is no longer evident. Most of these soils are well drained.

TABLE 9.—*Classification of the soil series by higher categories*

ZONAL SOILS

Great soil group and soil series	Brief profile description [1]	Position	Drainage class	Slope range	Parent material	Degree of profile development [2]
				Percent		
A. Red-Yellow Podzolic soils:						
Boswell	Brown to dark-brown fine sandy loam over red, tough, sticky and plastic clay.	Uplands	Moderately well drained.	2–15	Beds of acid clay and sandy clay of the Coastal Plain.	Strong.
Cuthbert	Dark grayish-brown fine sandy loam over yellowish-red, firm silty clay or clay.	Uplands	Moderately well drained.	6–50	Beds of acid sand, silt, or clay of the Coastal Plain.	Medium.
Enders	Brown loam over red, firm silty clay.	Uplands	Well drained	2–15	Residuum from shale and sandstone.	Strong.
Ruston	Brown fine sandy loam over yellowish-red, friable sandy clay loam.	Uplands	Well drained	0–25	Marine deposits consisting of acid sandy loam or loamy sand.	Medium.
Shubuta	Brown fine sandy loam over red silty clay that is underlain by mottled red and brown clay.	Uplands	Moderately well drained or well drained.	2–15	Marine deposits consisting of thick beds of acid sand, silt, or clay.	Strong.
Red-Yellow Podzolic soils that have a fragipan:						
Leadvale	Brown fine sandy loam over a fragipan of yellowish-brown, friable silt loam at a depth of 18 to 30 inches.	Toe slopes	Moderately well drained.	2–6	Old local alluvium and colluvium on toe slopes of shale and sandstone.	Strong.
Ora	Brown to dark-brown fine sandy loam over a fragipan of red, friable loam at a depth of 22 to 32 inches.	Uplands	Moderately well drained to well drained.	2–15	Marine deposits consisting of beds of acid sandy loam or sandy clay.	Strong.
Prentiss	Dark grayish-brown fine sandy loam over yellowish-brown sandy clay loam; a fragipan is at a depth of 20 to 30 inches.	Stream terraces	Moderately well drained	0–10	Old general alluvium from soils of the Coastal Plain uplands.	Strong.
Savannah	Dark grayish-brown loam over yellowish-brown, friable loam; a fragipan is at a depth of 20 to 30 inches.	Uplands	Moderately well drained.	0–10	Marine deposits consisting of beds of acid sand, sandy loam, or sandy clay.	Strong.
Red-Yellow Podzolic soils intergrading toward Lithosols:						
Townley	Brown loam over red silty clay that is underlain by yellowish-brown silty clay mottled with pale brown; shale bedrock is at a depth of 26 inches.	Uplands	Well drained	2–15	Residuum from shale that is interbedded with sandstone in places.	Medium.
Red-Yellow Podzolic soils intergrading toward Alluvial soils:						
Sequatchie	Brown to dark-brown loam over brown or dark-brown, friable silty clay loam.	Stream terraces	Well drained	0–6	Old general alluvium washed from soils derived from sandstone and shale.	Medium.

See footnotes at end of table.

TABLE 9.—*Classification of the soil series by higher categories*—Continued

ZONAL SOILS—Continued

Great soil group and soil series	Brief profile description [1]	Position	Drainage class	Slope range	Parent material	Degree of profile development [2]
				Percent		
A. Red-Yellow Podzolic soils intergrading toward Reddish-Brown Lateritic soils:						
Magnolia	Brown loam over red to dark-red, firm sandy clay.	Uplands	Well drained	2–10	Marine deposits consisting of beds of acid sandy clay loam and sandy clay.	Strong.
B. Reddish-Brown Lateritic soils:						
Greenville	Dark reddish-brown loam over dark-red, friable clay loam.	Uplands	Well drained	0–15	Marine deposits consisting of beds of acid sandy clay loam or sandy clay.	Medium.
Hanceville	Dark reddish-brown, loam over dark-red, friable clay loam.	Uplands	Well drained	2–10	Residuum from sandstone and shale.	Medium.
INTRAZONAL SOILS						
A. Planosols that have a fragipan:						
Mashulaville	Very dark gray loam over gray fine sandy loam with yellowish-brown mottles; a fragipan is at a depth of 14 inches.	Uplands	Poorly drained	0–2	Marine deposits consisting of beds of acid silty clay loam.	Medium.
Pheba	Light olive-brown loam over light yellowish-brown loam with brown and gray mottles; a fragipan is at a depth of 20 inches.	Uplands	Somewhat poorly drained.	0–2	Marine deposits consisting of beds of acid silt loam, clay loam, and sandy loam.	Strong.
Stough	Brown loam over light olive-brown clay loam mottled with yellowish brown and gray; a fragipan is at a depth of 14 to 24 inches.	Stream terraces	Somewhat poorly drained.	0–2	General alluvium washed from soils of the Coastal Plain.	Medium.
Tyler	Brown loam over yellowish-brown silt loam mottled with light gray and pale brown; a fragipan is at a depth of 22 inches.	Stream terraces	Somewhat poorly drained.	0–2	General alluvium washed from soils derived from shale and sandstone.	Strong.
B. Planosols that have a claypan:						
Leaf	Light brownish-gray silt loam and silty clay loam mottled with brown over light-gray silty clay; a claypan is at a depth of 36 inches.	Stream terraces	Poorly drained	0–2	General alluvium washed from soils of the Coastal Plain.	Strong.

See footnotes at end of table.

TABLE 9.—*Classification of the soil series by higher categories*—Continued

INTRAZONAL SOILS—Continued

Great soil group and soil series	Brief profile description [1]	Position	Drainage class	Slope range	Parent material	Degree of profile development [2]
				Percent		
C. Low-Humic Gley soils:						
Atkins	Gray silt loam over mottled gray and dark grayish-brown silt loam.	First bottoms	Poorly drained	0–2	General alluvium washed from soils derived from sandstone and shale.	Weak.
Bibb	Gray or dark-gray silt loam mottled with red and brown; underlain by light-gray or gray loam mottled with red and brown.	First bottoms	Poorly drained	0–2	General alluvium washed from soils of the Coastal Plain uplands.	Weak.
Myatt	Dark-brown silt loam over mottled light-gray or gray silt loam; underlain by light yellowish-brown fine sandy clay loam.	Stream terraces	Poorly drained	0–2	Old general alluvium washed from soils of the Coastal Plain.	Medium.

AZONAL SOILS

A. Alluvial soils:						
Iuka	Dark grayish-brown silt loam over yellowish-brown loam mottled with gray and light brownish gray.	First bottoms	Moderately well drained.	0–2	General alluvium washed from soils of the Coastal Plain uplands.	Weak.
Ochlockonee	Brown to dark-brown loam over dark-brown, friable silt loam.	First bottoms	Well drained	0–2	General alluvium washed from soils of the Coastal Plain uplands.	Weak.
Philo	Brown to dark-brown loam over dark-brown silt loam; underlain by mottled gray and dark-brown loam.	First bottoms	Moderately well drained.	0–2	General alluvium washed from soils derived from sandstone and shale.	Weak.
Alluvial soils intergrading toward Low-Humic Gley soils:						
Mantachie	Brown to dark-brown fine sandy loam over gray silt loam with yellowish-brown and reddish-brown mottles.	First bottoms	Somewhat poorly drained.	0–2	General alluvium washed from soils of the Coastal Plain uplands.	Weak.
Stendal	Dark grayish-brown loam over mottled dark grayish-brown, brown, and light brownish-gray silt loam.	First bottoms	Somewhat poorly drained.	0–2	General alluvium washed from soils derived from shale and sandstone.	Weak.
B. Lithosols:						
Montevallo	Yellowish-brown shaly silt loam over yellowish-brown shaly silty clay loam; more than 75 percent is partly weathered shale; shale rock is at a depth of 22 inches.	Uplands	Excessively drained.	2–50	Residuum from acid shale.	Weak.
C. Regosols:						
Guin	Brown gravelly sandy loam over very pale brown sand and gravel; 75 to 90 percent gravel.	Uplands	Excessively drained.	6–50	Marine deposits consisting of beds of sand and gravel.	Weak.

[1] These descriptions are of soil profiles that have not been affected materially by accelerated erosion.
[2] As measured by the number of important genetic horizons and the degree of contrast between them.

The typical Red-Yellow Podzolic soils in this county are those of the Boswell, Cuthbert, Enders, Ruston, and Shubuta series. The Leadvale, Ora, Prentiss, and Savannah soils are Red-Yellow Podzolic soils, but they have a fragipan. The Townley, Sequatchie, and Magnolia soils are also Red-Yellow Podzolic soils, but the Townley soils have some characteristics of Lithosols, the Sequatchie soils have some characteristics of Alluvial soils, and the Magnolia soils have some characteristics of Reddish-Brown Lateritic soils.

Boswell series

In the Boswell series are deep, moderately well drained soils on uplands of the Coastal Plain. These soils formed in thick beds of acid, fine-textured marine sediments.

The Boswell soils occur with Ruston, Cuthbert, and Shubuta soils. They are much finer textured than the Ruston soils, and they are finer textured and more plastic than the Cuthbert and Shubuta soils.

The following describes a representative profile of Boswell fine sandy loam in a wooded area that was formerly cultivated, 3½ miles northwest of Newtonville (SW¼ SE¼ sec. 13, T. 17 S., R. 13 W.):

Ap—0 to 4 inches, brown to dark-brown (10YR 4/3) fine sandy loam; weak, fine, crumb structure; very friable; many fine roots; about 2 percent fragments of ironstone ½ to 1 inch in diameter; very strongly acid; clear, smooth boundary. 3 to 6 inches thick.

B21t—4 to 8 inches, yellowish-red (5YR 4/6) to red (2.5YR 4/6) silty clay or clay; moderate, fine and medium, subangular blocky structure; hard to very hard, sticky, and plastic; common fine roots; 2 to 3 percent fragments of ironstone ¼ to ¾ inch in diameter; very strongly acid; gradual, wavy boundary. 0 to 6 inches thick.

B22t—8 to 16 inches, red (2.5YR 4/6) clay; strong, medium, angular and subangular blocky structure; very sticky and plastic or very plastic; few fine roots; 2 to 3 percent fragments of ironstone ¼ to ¾ inch in diameter; has thin clay films on the surfaces of peds; extremely acid; gradual, wavy boundary. 6 to 16 inches thick.

B3t—16 to 24 inches, red (2.5YR 4/6) clay with many, fine and medium, distinct, pale-brown (10YR 6/3) mottles; moderate, coarse, subangular blocky structure; very hard, very sticky, and plastic or very plastic; few fine roots; extremely acid; gradual, wavy boundary. 4 to 20 inches thick.

C1—24 to 42 inches, mottled light-gray to gray (10YR 6/1), red (2.5YR 4/6), and pale-brown (10YR 6/3) clay; mottles are many, medium, and prominent; massive; very hard, very sticky, and plastic or very plastic; extremely acid; gradual, wavy boundary. 10 to 40 inches thick.

C2—42 to 60 inches, dark-red (2.5YR 3/6 to 10R 3/6) clay with many, medium, prominent, light-gray to gray (10YR 6/1) mottles; massive; extremely hard, very sticky, and very plastic; extremely acid; gradual, wavy boundary. 10 to 40 inches thick.

C3—60 to 72 inches +, mottled light-gray to gray (10YR 6/1), brownish-yellow (10YR 6/6), and red (10R 4/6) clay; massive; very hard, sticky, and plastic; extremely acid.

The color of the surface layer in cultivated areas ranges from grayish brown to dark brown. In areas that have never been cleared, the color of the surface layer ranges from dark grayish brown to dark gray, but the color ranges to reddish brown in severely eroded areas. The color of the B2 horizons ranges from yellowish red to dark red, and the combined thickness of those horizons ranges from 6 to 16 inches. In places the lower B2 horizon is mottled with pale brown. In most places the texture of that horizon is clay, but it ranges to silty clay and sandy clay. The mottles in the B3t horizon are distinct or prominent, and their color ranges from gray to brown. The color of the C3 horizon ranges from gray with yellowish-red and red mottles to red with gray mottles.

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Cuthbert series

Shallow and moderately deep, moderately well drained soils on uplands of the Coastal Plain make up the Cuthbert series. These soils formed in beds of marine clays, silty clays, and sandy clays that are highly stratified with lenses of sandy material. They have few to common, platy fragments of iron-crust rock, 1 to 2 inches thick and 3 to 10 inches long, on the surface. Also on the surface are a few angular pebbles of quartz, 2 to 4 inches in diameter.

The Cuthbert soils are gently sloping to steep and occur with the Ruston, Ora, and Shubuta soils. They have a thinner and finer textured B horizon than the Ruston and Ora soils, and they lack the fragipan that is typical of the Ora soils. The Cuthbert soils have a thinner and less reddish lower B horizon than the Shubuta soils.

The following describes a representative profile of a Cuthbert soil in a moderately steep, wooded area, ½ mile south of Glen Allen (SE¼NW¼ sec. 19, T. 13 S., R. 11 W.):

Ap—0 to 5 inches, dark grayish-brown (10YR 4/2) fine sandy loam; weak, fine, granular structure; very friable; common fragments of shale 1/16 to 1 inch in diameter; many fine roots; very strongly acid; clear, wavy boundary. 4 to 10 inches thick.

B1—5 to 9 inches, strong-brown (7.5YR 5/6) silt loam; weak, fine and medium, subangular blocky structure; firm; common fine roots; common fragments of iron-crust rock ½ inch to 2 inches in diameter; few dark-brown concretions 1/16 to ¼ inch in diameter; very strongly acid; gradual, wavy boundary. 2 to 8 inches thick.

B2t—9 to 18 inches, yellowish-red (5YR 5/6) silty clay or clay; moderate to strong, fine and medium, subangular and angular blocky structure; firm; few fine roots; few, medium, old root channels filled with soil material from the Ap horizon; clay films on the surfaces of peds; few angular fragments of iron-crust rock as much as 1 inch in diameter; few dark-brown concretions 1/16 to ¼ inch in diameter; very strongly acid; gradual, wavy boundary. 4 to 12 inches thick.

B3t—18 to 24 inches, mottled gray (10YR 6/1), pale-brown (10YR 6/3), light yellowish-brown (10YR 6/4), and yellowish-red (5YR 5/6) silty clay or clay; mottles are many, fine, and distinct; weak, coarse, angular blocky structure; firm; few fine and medium roots; few clay films on the surfaces of peds; very strongly acid; gradual, wavy boundary. 4 to 12 inches thick.

C1—24 to 41 inches, gray (10YR 6/1) silty clay or clay; many, fine and medium, prominent mottles of yellowish red (5YR 5/6) and many, medium, faint mottles of light brownish gray (10YR 6/2); massive; firm; common mica flakes; few fine and medium roots; few strong-brown concretions as much as 1 inch in diameter; very strongly acid; abrupt, wavy boundary. 10 to 20 inches thick.

IIC2—41 to 47 inches, layers of iron-crust rock that are 1/16 to ⅛ inch thick and are separated by thin lenses of sand, silt, and clay that are about 1 inch thick; the lenses are mottled yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and gray (10YR 6/1); extremely acid; abrupt, wavy boundary. 0 to 10 inches thick.

IIC3—47 to 72 inches +, gray (10YR 5/1 to 10YR 6/1) silt or silty clay with few strong-brown (7.5YR 5/8) iron stains; thinly laminated; firm; common mica flakes; few fine roots; common iron stains between the thin, platy layers of silt or silty clay; very strongly acid.

In areas that have not been cultivated, the color of the A1 horizon ranges from dark gray to dark grayish brown, and the thickness of that horizon ranges from 2 to 5 inches. The color of the Ap horizon ranges from dark grayish brown to pale brown. The color of the B1 horizon ranges from yellowish brown or strong brown to red, and the texture of that horizon ranges from loam to silty clay loam. The B1 horizon is not present in all profiles. The color of the B2t horizon ranges from strong brown to red, and the texture of that horizon ranges from clay loam to clay. In places the lower part of the B2t horizon is mottled. The color of the B3t horizon ranges from strong brown to yellowish red mottled with gray or with gray and brown. The texture of that horizon ranges from silty clay loam to clay. The B3t horizon is not present in all profiles. The C horizon ranges from highly stratified, thinly laminated clay and sandy material to alternately interbedded tough clay and sand. In many places platy fragments of iron-crust rock, 1 to 10 inches in diameter, are on the surface and in the profile. The number of fragments ranges from few to many.

Enders series

In the Enders series are moderately deep and deep, well-drained soils of the Southern Appalachian Plateau. These soils formed in material weathered from interbedded shale and sandstone. Fragments of shale and sandstone are on the surface and throughout the profile.

The Enders soils are on the uplands and occur with the Montevallo, Townley, and Hanceville soils. They have a lighter colored surface layer and a finer textured subsoil than the Hanceville soils. Their B horizon is thicker than that of the Townley soils. The Enders soils have a redder, deeper profile than the Montevallo soils and a distinct B horizon instead of a thin, skeletal, weakly expressed B horizon.

The following describes a representative profile of Enders loam in a moist, cultivated area 5 miles northeast of Berry (NW¼SW¼ sec. 22, T. 15 S., R. 10 W.):

Ap—0 to 5 inches, brown (10YR 5/3) loam; weak, fine and medium, granular structure; very friable; many fine roots; common fragments of shale and sandstone ⅛ to ½ inch in diameter; few rounded quartz pebbles; very strongly acid; abrupt, smooth boundary. 4 to 8 inches thick.

B1—5 to 9 inches, yellowish-red (5YR 4/6 to 5YR 5/6) silt loam or silty clay loam; weak, fine, granular and weak, fine, subangular blocky structure; friable; few fine roots; few fragments of shale and sandstone ⅛ to ½ inch in diameter; very strongly acid; gradual, smooth boundary. 2 to 6 inches thick.

B21t—9 to 22 inches, red (2.5YR 4/6) silty clay; moderate, fine and medium, subangular blocky structure; firm; few fine roots; few fragments of shale and sandstone ¼ to ½ inch in diameter; thick clay films on the surfaces of peds; very strongly acid; clear, wavy boundary. 10 to 20 inches thick.

B22t—22 to 27 inches, red (2.5YR 4/6) silty clay; few, fine and medium, distinct, yellowish-brown (10YR 5/6) variegations; moderate, fine and medium, subangular blocky structure; firm; few fine roots; few fragments of shale and sandstone ⅛ to ½ inch in diameter; thick clay films on the surfaces of peds; very strongly acid; clear, wavy boundary. 2 to 8 inches thick.

B3t—27 to 40 inches, variegated red (2.5YR 4/6) and yellowish-brown (10YR 5/6) silty clay; variegations are many, medium, and distinct; weak, thin, platy structure to weak, coarse, subangular blocky structure; friable; common fragments of shale and sandstone ¼ to 1 inch in diameter; clay films on the surfaces of some peds; very strongly acid; gradual, wavy boundary. 5 to 15 inches thick.

C—40 to 52 inches, variegated red (2.5YR 5/6), dark reddish-brown (2.5YR 3/4), and yellowish-brown (10YR 5/6) silty clay loam or silty clay; variegations are many, medium, and distinct; weak, thick, platy structure to massive; friable; 10 percent dark reddish-brown fragments of sandy shale ½ to 1½ inches in diameter; extremely acid; abrupt, smooth boundary. 0 to 15 inches thick.

R—52 inches +, level-bedded, acid shale.

In areas that have not been cleared, the color of the A1 horizon ranges from dark gray to dark grayish brown, and the thickness of the A1 horizon ranges from 3 to 5 inches. The color of the Ap horizon ranges from grayish brown to dark yellowish brown. The color of the B1 horizon ranges from strong brown to red or yellowish red, and the texture of that horizon ranges from silt loam to silty clay. The color of the B2 horizons ranges from yellowish red to dark red, and the texture of those horizons ranges from silty clay loam to clay. The color of the B3t horizon ranges from strong brown to red, generally mottled with brown, and the texture ranges from silty clay loam to clay. In places the C horizon is mottled with red, brown, and gray. The C horizon is absent in some places, however, and the B3t horizon in these areas directly overlies interbedded shale and sandstone. The fragments of sandstone and shale on the surface and throughout the profile range from few to many in number and from ¼ inch to 2 inches in diameter.

Ruston series

The Ruston series consists of deep, well-drained soils of the Coastal Plain. The soils formed in thick beds of unconsolidated marine sediments of acid sandy loam to sandy clay loam. They have varying amounts of quartz and chert gravel and fragments of ironstone on the surface and throughout the profile. The fragments of ironstone range from one-half inch to 2 inches in diameter.

These soils occur on uplands with the Ora, Savannah, Shubuta, Cuthbert, and Greenville soils. They lack the fragipan that is typical of the Ora and Savannah soils, and they are redder throughout than the Savannah soils. They are coarser textured and better drained than the Shubuta soils. The Ruston soils are deeper, better drained, and coarser textured than the Cuthbert soils. They have a more grayish surface layer, are coarser textured throughout, and have a less reddish subsoil than the Greenville soils.

The following describes a representative profile of Ruston fine sandy loam in a wooded area that was formerly cultivated, 4 miles southeast of Stough Elementary School (SE¼SE¼ sec. 17, T. 15 S., R. 11 W.):

Ap—0 to 6 inches, brown (10YR 5/3) fine sandy loam; weak, fine, crumb structure; very friable; many fine roots; few fragments of ironstone ¼ to ¾ inch in diameter; very strongly acid; few dark-brown concretions ¼ to ½ inch in diameter; clear, wavy boundary. 4 to 8 inches thick.

B1—6 to 9 inches, yellowish-red (5YR 5/6) fine sandy loam or fine sandy clay loam; weak, fine, subangular blocky structure; friable; few fine and medium roots; few dark-brown concretions ¼ to ½ inch in diameter; very strongly acid; clear, wavy boundary. 0 to 8 inches thick.

B21t 9 to 29 inches, yellowish-red (5YR 4/6) fine sandy clay loam; weak, fine, subangular blocky structure; fri-

able; few fine and medium roots; few dark-brown concretions ⅛ to ½ inch in diameter; few old root channels filled with material from the overlying horizons; clay films on the surfaces of peds; very strongly acid; gradual, wavy boundary. 10 to 30 inches thick.

B22t—29 to 45 inches, yellowish-red (5YR 4/6) fine sandy loam; weak, fine and medium, subangular blocky structure; very friable; few fine roots; few dark-brown concretions ⅛ to ½ inch in diameter; few fragments of ironstone ¼ to ½ inch in diameter; few old root channels filled with material from the overlying horizons; sand grains are coated and bridged; very strongly acid; gradual, wavy boundary. 5 to 20 inches thick.

B31—45 to 56 inches, yellowish-red (5YR 4/8) light sandy loam; few, medium, faint, dark-brown (7.5YR 4/4) mottles; massive; very friable; few fine roots; common, platy fragments of ironstone ½ inch thick and 1 to 4 inches wide in pockets or in discontinuous layers; very strongly acid; gradual, wavy boundary. 5 to 15 inches thick.

B32—56 to 72 inches, yellowish-red (5YR 5/6) sandy loam; common, medium, distinct mottles of strong brown (7.5YR 5/6), light gray (10YR 7/1), and light yellowish brown (10YR 6/4); massive; very friable; few, platy fragments of ironstone 1 to 3 inches in diameter; very strongly acid. Generally several feet thick.

The color of the Ap horizon ranges from dark brown or brown to grayish brown. In areas that have not been cultivated, the color of the A1 horizon ranges from dark gray to very dark grayish brown, and the thickness of that horizon ranges from 2 to 5 inches. The color of the B1 horizon ranges from dark yellowish brown to yellowish red, and the texture of that horizon ranges from sandy loam to sandy clay loam. The color of the B2 horizons ranges from strong brown to red, and the texture of those horizons ranges from sandy loam to heavy sandy clay loam or silty clay. The color of the B3 horizons ranges from strong brown to red, and the texture of those horizons ranges from sandy loam to sandy clay loam.

Shubuta series

In the Shubuta series are deep, moderately well drained to well drained soils on uplands of the Coastal Plain. These soils formed in thick beds of marine sediments consisting of stratified sand, silt, or clay. Varying amounts of iron-crust rock fragments are on the surface and in the profile.

The Shubuta soils occur with the Ruston, Guin, Ora, Savannah, Boswell, and Cuthbert soils. They have a finer textured subsoil than the Ruston soils. They are redder and finer textured throughout than the Guin soils, and they lack the gravel that is present in the Guin soils. The Shubuta soils are finer textured than the Ora and Savannah soils, and they lack the fragipan that is typical of those soils. The Shubuta soils are less plastic than the Boswell soils. The lower part of their B horizon is thicker and redder than that of the Cuthbert soils.

The following describes a representative profile of Shubuta fine sandy loam in a wooded area 2 miles south of Rossland City (SW¼SE¼ sec. 14, T. 16 S., R. 12 W.):

Ap—0 to 4 inches, brown (10YR 5/3) fine sandy loam; pale brown (10YR 6/3) when dry; weak, fine, crumb structure; very friable; many fine roots; 4 percent fragments of iron-crust rock ¼ to ½ inch in diameter; very strongly acid; clear, smooth boundary. 3 to 7 inches thick.

BA—4 to 7 inches, 70 percent yellowish-red (5YR 4/6) and 30 percent brown (10YR 5/3) silty clay; weak, fine, subangular blocky structure; firm or hard; many fine roots; 1 percent fragments of iron-crust rock ¼ to ½ inch in diameter; very strongly acid; clear, wavy boundary. 2 to 6 inches thick.

B21t—7 to 18 inches, red (2.5YR 4/6) silty clay; weak to moderate, medium, subangular blocky structure; firm or hard; clay films on the surfaces of peds; common fine roots; 3 percent fragments of iron-crust rock ¼ inch in diameter; few, fine, old root channels; very strongly acid; gradual, wavy boundary. 8 to 20 inches thick.

B22t—18 to 32 inches, red (2.5YR 4/6) silty clay; exteriors of peds are dark red (2.5YR 3/6), and interiors are red (2.5YR 4/8); few, fine, faint variegations of light yellowish brown (10YR 6/4); moderate, fine and medium, angular blocky structure; firm or hard; thick clay films on the surfaces of all peds; 1 percent fragments of iron-crust rock ½ inch in diameter; few fine roots; very strongly acid; gradual, wavy boundary. 8 to 30 inches thick.

B23t—32 to 60 inches, 50 percent red (2.5YR 4/6), 40 percent light yellowish-brown (2.5Y 6/4), and 10 percent very pale brown (10YR 7/3) clay; moderate, fine and medium, angular blocky structure; firm or hard; thick clay films on the surfaces of peds; very strongly acid; gradual, wavy boundary. 20 to 40 inches thick.

IIC—60 to 72 inches +, 50 percent light yellowish-brown (2.5Y 6/4), 40 percent red (2.5YR 4/8), and 10 percent light-gray to gray (10YR 6/1) silty clay; massive; firm; occasional clay films on the surfaces of peds; discontinuous layer of iron-crust rock; extremely acid. (This horizon sampled with bucket auger.)

In areas that have not been cultivated, the color of the A1 horizon ranges from dark gray to dark grayish brown, and the thickness of that horizon, from 2 to 4 inches. The color of the Ap horizon ranges from dark grayish brown to pale brown. The texture of the BA horizon ranges from loam to silty clay, and the color of that horizon ranges from strong brown to red. The texture of the B2t horizons ranges from silty clay loam to clay, and the color of those horizons ranges from strong brown to red. The color of the B23t horizon ranges from yellowish red or red, distinctly or prominently mottled with brown and gray, to light yellowish brown or very pale brown, and the texture of that horizon ranges from silty clay to clay. In places the B23t horizon is underlain by plastic heavy clay or sand.

Red-Yellow Podzolic soils that have a fragipan.—The soils of this great soil group have all of the characteristics of Red-Yellow Podzolic soils, except that they have a fragipan in the lower part of their subsoil. The fragipan impedes the penetration of water and roots. These soils are moderately well drained.

Leadvale series

Deep, gently sloping, moderately well drained soils that have a fragipan are in the Leadvale series. These soils formed in local alluvium and colluvium that washed from soils underlain mainly by shale.

The Leadvale soils occur in narrow valleys with the Stendal and Sequatchie soils. They are better drained than the Stendal soils, and they have a more distinctly developed B horizon. They are more poorly drained than the Sequatchie soils. The Leadvale soils have a fragipan that is lacking in the Stendal and Sequatchie soils. Their profile is similar to that of the Prentiss and Savannah soils. It is more silty, however, than that of the Prentiss soils, and the degree of development of the fragipan is less than in the Savannah soils.

The following describes a representative profile of Leadvale loam in a moist, wooded area along County Highway No. 102, 2½ miles east of the junction with State Highway No. 13 (NE¼SE¼ sec. 30, T. 14 S., R. 10 W.):

Ap—0 to 6 inches, brown (10YR 5/3) to yellowish-brown (10YR 5/4) loam, pale brown (10YR 6/3) when dry; weak, fine and medium, granular structure; very friable; few, fine, dark-brown or black concretions; few fine fragments of shale; few, fine, rounded pebbles of quartz; common fine roots; very strongly acid; abrupt, smooth boundary. 5 to 8 inches thick.

B1t—6 to 12 inches, yellowish-brown (10YR 5/6) silt loam; weak, fine, subangular blocky structure; friable; few fine and medium roots; few mica flakes; few rounded quartz pebbles; very strongly acid; clear, smooth boundary. 4 to 10 inches thick.

B21t—12 to 23 inches, yellowish-brown (10YR 5/8) silt loam; weak, fine and medium, subangular blocky structure; friable; few fine and medium roots; few mica flakes; few, fine and medium, dark-brown concretions; few rounded quartz pebbles; clay films on the surfaces of peds; very strongly acid; clear, smooth boundary. 10 to 20 inches thick.

B22t—23 to 30 inches, yellowish-brown (10YR 5/6) sandy clay loam with few, fine, faint mottles of light grayish brown and dark yellowish brown; weak to moderate, fine and medium, subangular blocky structure; firm; common, fine and medium, dark-brown or black concretions; compact in place; few fine roots; few, fine, rounded quartz pebbles; clay films on the surfaces of peds; very strongly acid; gradual, wavy boundary. 0 to 12 inches thick.

B3x—30 to 40 inches, yellowish-brown (10YR 5/6) sandy clay loam; common, medium, distinct mottles of light brownish gray (10YR 6/2), light yellowish brown (10YR 6/4), and dark yellowish brown (10YR 4/4); weak, fine and medium, subangular blocky structure; firm; 5 to 6 percent fine and medium, dark-brown or black concretions; few vesicles; compact in place but brittle if disturbed; few rounded quartz pebbles; very strongly acid; gradual, wavy boundary.

IIC—40 to 60 inches, yellowish-brown (10YR 5/6) silty clay loam; many, medium, prominent, light-gray to gray (10YR 6/1) mottles; massive; firm; few rounded quartz pebbles; ¼ to ½ inch in diameter; very strongly acid.

R—60 inches +, interbedded shale and sandstone.

In areas that have not been cleared, the A1 horizon ranges from very dark gray to dark grayish brown. The color of the Ap horizon ranges from grayish brown to yellowish brown or dark brown. The color of the B1t horizon ranges from light yellowish brown to dark yellowish brown, and the texture of that horizon ranges from fine sandy loam to silty clay loam. The color of the B2 horizons ranges from light olive brown or yellowish brown to strong brown, and the texture of those horizons ranges from loam to silty clay loam. The texture of the fragipan ranges from fine sandy loam to sandy clay loam, and in places the fragipan is mottled with brown and gray. Depth to the fragipan ranges from 20 to 32 inches; the degree of expression of that layer is minimal in most places, but it ranges to medial. The thickness of the colluvium ranges from 3 to 8 feet. The mica flakes are absent in places.

Ora series

The Ora series consists of deep, moderately well drained to well drained soils that have a fragipan. These soils formed in marine sediments consisting of beds of acid sandy loam to sandy clay.

The Ora soils occur on uplands with the Savannah, Ruston, Greenville, and Shubuta soils. They are redder throughout than the Savannah soils and are more poorly drained than the Ruston and Greenville soils. The Ora soils have a lighter colored surface layer than the Greenville soils, and they have a coarser textured subsoil than the Shubuta soils. They have a fragipan that is lacking in the Ruston, Shubuta, and Greenville soils.

The following describes a representative profile of Ora fine sandy loam in a cultivated area 1½ miles east of Glen Allen (SW¼NE¼ sec. 20, T. 13 S., R. 11 W.):

Ap—0 to 5 inches, brown to dark-brown (10YR 4/3) fine sandy loam; weak, fine, crumb structure; very friable; few to common pebbles of quartz and chert ⅛ to ½ inch in diameter; many fine roots; very strongly acid; abrupt, smooth boundary. 4 to 7 inches thick.

B1—5 to 9 inches, yellowish-red (5YR 4/6) loam; weak, fine, subangular blocky structure; friable; common fine roots; few pebbles of quartz and chert ⅛ to ½ inch in diameter; very strongly acid; gradual, smooth boundary. 2 to 8 inches thick.

B2t—9 to 22 inches, yellowish-red (5YR 4/6) to red (2.5YR 4/6) loam; weak, fine and medium, subangular blocky structure; friable; few fine roots; few pebbles of quartz and chert ⅛ to ½ inch in diameter; clay films in root channels and in a few places on the surfaces of peds; very strongly acid; gradual, smooth boundary. 8 to 16 inches thick.

A'x&B'x—22 to 28 inches, 80 percent yellowish-red (5YR 4/6) fine sandy loam, 10 percent red (2.5YR 4/6) sandy clay loam, and 10 percent light yellowish-brown (10YR 6/4) fine sandy loam; weak, medium, subangular blocky structure; friable; no clay films and many clean sand grains; 1 percent pebbles of quartz and chert ⅛ to ½ inch in diameter; compact in place, brittle if disturbed; extremely acid; clear, wavy boundary. 3 to 10 inches thick.

B'21tx—28 to 42 inches, 40 percent red (2.5YR 4/6), 40 percent yellowish-red (5YR 4/6), and 20 percent light yellowish-brown (10YR 6/4) fine sandy clay loam; weak, coarse, angular blocky structure; friable to firm, slightly sticky, hard; compact in place, brittle if disturbed; thin clay films in cracks and on the surfaces of peds; extremely acid; gradual, wavy boundary. 6 to 20 inches thick.

B31t—42 to 55 inches, red (2.5YR 4/6) heavy sandy clay loam with few, fine, distinct, pale-brown mottles; weak, coarse, subangular blocky structure; firm; thin clay films on the surfaces of peds; few pebbles of chert and quartz ⅛ to ½ inch in diameter; extremely acid; gradual, wavy boundary. 12 to 24 inches thick.

B32t—55 to 72 inches +, red (2.5YR 4/8) light sandy clay loam with few, fine, distinct, pale-brown mottles; weak, coarse, subangular blocky structure; friable; 2 to 3 percent pebbles of chert and quartz ⅛ to ¾ inch in diameter; patchy clay films on the surfaces of peds; sand grains are coated and bridged; extremely acid.

In areas that have not been cultivated, the color of the A1 horizon ranges from very dark grayish brown to grayish brown, and the thickness of that horizon ranges from 2 to 4 inches. The color of the Ap horizon ranges from brown or grayish brown to dark yellowish brown. The color of the B1 horizon ranges from strong brown to yellowish red, and the texture of that horizon ranges from fine sandy loam to sandy clay loam. The B1 horizon is not present in all areas. The color of the B2t horizon ranges from strong brown to red, and the texture of that horizon ranges from fine sandy loam to clay loam. Depth to the fragipan ranges from 20 to 36 inches; the degree to which the fragipan is expressed ranges from weak to strong. The color in the lower part of the B horizon ranges from yellowish brown to red. In places the lower part of the B horizon is mottled with brown and gray.

The texture in the lower part of the B horizon ranges from fine sandy loam to sandy clay. In places few to many pebbles of quartz and chert are on the surface and in the profile. These pebbles range from fine to medium in size.

Prentiss series

In the Prentiss series are deep, moderately well drained soils that have a fragipan. These soils formed in alluvium washed mainly from uplands of the Coastal Plain. In most places they have minimal development of a fragipan.

These soils occur on stream terraces with the Stough and Myatt soils, but they are browner and better drained than those soils. They have a profile similar to that of the Savannah and Leadvale soils, but they are less silty than those soils. Also, their fragipan is less developed than that in the Savannah soils.

The following describes a representative profile of Prentiss fine sandy loam in a cultivated area 100 yards south of Macedonia Baptist Church, along County Highway No. 35, 3½ miles south of the town of Fayette (NW¼SW¼ sec. 28, T. 16 S., R. 12 W.):

Ap—0 to 6 inches, dark grayish-brown (10YR 4/2) fine sandy loam; weak, fine, crumb structure; very friable; many fine roots; medium acid; clear, smooth boundary. 5 to 8 inches thick.

AB—6 to 10 inches, yellowish-brown (10YR 5/4) fine sandy loam or loam with few, fine, faint mottles of pale brown and light yellowish brown; brown (10YR 4/3) when crushed; weak, fine, subangular blocky structure; friable; hard; few, fine, black concretions; few fine roots; slightly compact (plowpan); strongly acid; clear, smooth boundary. 2 to 6 inches thick.

B21t—10 to 18 inches, yellowish-brown (10YR 5/6) fine sandy clay loam; weak, fine, subangular blocky structure and weak, fine, granular structure; friable; few fine roots; few dark-brown and black concretions ¼ to ¾ inch in diameter; clay films in pores, and coatings on sand grains; very strongly acid; clear, wavy boundary. 8 to 20 inches thick.

B22tx&A′2x—18 to 22 inches, yellowish-brown (10YR 5/6) loam with pale-brown (10YR 6/3), thick coatings of clay; weak, medium and coarse, angular blocky structure; friable; thick, gray coatings of clay on the surfaces of peds; many vesicles; few, soft manganese concretions; few fine roots; very strongly acid; clear, wavy boundary. 2 to 6 inches thick.

B′2tx—22 to 42 inches, yellowish-brown (10YR 5/4) clay loam with many, medium, distinct mottles of gray, pale brown, and strong brown; moderate, medium, angular blocky structure; compact in place, brittle if disturbed; thin, discontinuous clay films on the surfaces of peds; few vesicles; extremely acid; gradual, wavy boundary. 6 to 24 inches thick.

B′3t—42 to 60 inches +, light-gray to gray (10YR 6/1) and light yellowish-brown (10YR 6/4) sandy clay loam; weak, coarse, angular blocky structure; friable; discontinuous clay films on the surfaces of peds; 2 to 3 percent black manganese concretions ¼ to ¾ inch in diameter; extremely acid.

The color of the Ap horizon ranges from dark grayish brown to yellowish brown. In areas that have not been cultivated, the color of the A1 horizon ranges from dark gray to dark grayish brown. The color of the B21t horizon ranges from brownish yellow to dark yellowish brown, and the texture of that horizon ranges from fine sandy loam to fine sandy clay loam. In places fine, faint, gray mottles are in the lower part of the B21t horizon. Depth to the fragipan ranges from 20 to 30 inches. The degree of expression of the fragipan ranges from weak to strong. In places the fragipan is distinctly mottled with gray and brown. The color of the B′ horizons ranges from light gray to strong brown or yellowish brown, and those horizons have mottles that range from distinct to prominent and from gray or red to brown or strong brown. The texture of the B′ horizons ranges from fine sandy loam to clay loam. Some profiles contain iron and manganese concretions that range from few to common in number and from fine to medium in size.

Savannah series

The Savannah series consists of deep, moderately well drained soils that have a fragipan. These soils formed in thick beds of stratified, medium to moderately fine textured, acid marine sediments.

These soils occur on uplands with the Ruston, Shubuta, and Ora soils. They are browner than the Ruston soils, have a coarser textured B horizon than the Shubuta soils, and have a fragipan that is lacking in the Ruston and Shubuta soils. Their B horizon is yellowish brown instead of yellowish red to red like that of the Ora soils. The profile of the Savannah soils is somewhat similar to that of the Prentiss and Leadvale soils. The degree of expression of the fragipan is generally medial in the Savannah soils, however, instead of minimal like that of the fragipan in the Prentiss and Leadvale soils. Also, the Savannah soils are more silty than the Prentiss soils.

The following describes a representative profile of Savannah loam in a cultivated area along County Highways Nos. 53 and 44 (SE¼NE¼ sec. 17, T. 14 S., R. 11 W.):

Ap—0 to 5 inches, dark grayish-brown (10YR 4/2) loam; weak, fine, granular structure; very friable; few pebbles of quartz and chert 1/16 to ¼ inch in diameter; few dark-brown concretions ¼ inch in diameter; common fine roots; strongly acid; abrupt, smooth boundary. 4 to 8 inches thick.

AB—5 to 8 inches, 70 percent grayish-brown (10YR 5/2) and 30 percent yellowish-brown (10YR 5/4) loam; weak, fine, subangular blocky structure; very friable; few rounded pebbles of chert and quartz 1/16 to ¼ inch in diameter; few dark-brown concretions ¼ inch in diameter; common fine roots; strongly acid; abrupt, smooth boundary. 2 to 6 inches thick.

B2t—8 to 20 inches, yellowish-brown (10YR 5/6) clay loam; weak, fine, subangular blocky structure; friable; no clay films; uncoated sand grains; few pebbles of quartz and chert ⅛ to ½ inch in diameter; few fine roots; few dark-brown concretions ¼ inch in diameter; very strongly acid; gradual, wavy boundary. 12 to 24 inches thick.

A′2x&B′2x—20 to 25 inches, loam that is mainly yellowish brown (10YR 5/6), but is 30 percent light brownish gray (10YR 6/2); weak, fine, subangular blocky structure; friable; no clay films; clean sand grains; compact in place, brittle if disturbed; few pebbles of chert and quartz ⅛ to ½ inch in diameter; few fine roots; few dark-brown concretions ¼ inch in diameter; very strongly acid; gradual, wavy boundary. 3 to 8 inches thick.

B′2tx&A′x—25 to 42 inches, mottled yellowish-brown (10YR 5/4), yellowish-red (5YR 4/6), light yellowish-brown (2.5Y 6/4), and strong-brown (7.5YR 5/6) clay loam; mottles are many, medium, and distinct; weak, coarse, polygonal structure that breaks to weak, medium, subangular blocky; friable; clay films in polygonal cracks; occasional clay films on the surfaces of peds; large polygonal cracks 1 inch wide filled with gray material; compact in place, brittle if disturbed; few fine vesicles; very strongly acid; gradual, wavy boundary. 10 to 30 inches thick.

B'3t—42 to 72 inches +, mottled yellowish-red (5YR 4/6), strong-brown (7.5YR 5/6), yellowish-brown (10YR 5/6), light brownish-gray (10YR 6/2), and light-gray to gray (10YR 6/1) fine sandy clay loam; mottles are many, medium, and distinct; weak, coarse, polygonal to weak, thick, platy structure that breaks to weak, medium, subangular blocky; friable; clay films in cracks and on the surfaces of peds; polygonal cracks 1 inch wide filled with gray material; extremely acid.

The color of the Ap horizon ranges from brown to dark grayish brown or dark brown. In areas that have not been cleared, the color of the A1 horizon ranges from dark gray to dark grayish brown. The texture of the B2t horizon ranges from fine sandy loam to clay loam, and the color of that horizon ranges from yellowish brown to dark yellowish brown. Depth to the fragipan ranges from 20 to 30 inches, but the depth to the pan is about 24 inches in most places. The degree of expression of the fragipan ranges from medial to maximal. In places the fragipan is prominently mottled. The texture of the B'3t horizon ranges from sandy loam to clay loam.

Red-Yellow Podzolic soils intergrading toward Lithosols.—These soils are classified as Red-Yellow Podzolic soils, but they have some characteristics of Lithosols. Their solum is thinner than typical for Red-Yellow Podzolic soils, and horizonation is weakly expressed, as in soils of the Lithosol great soil group.

Townley series

In the Townley series are well-drained soils that are shallow and moderately deep. These soils formed in material weathered from acid shale that is interbedded with sandstone in places. Varying amounts of shale fragments are on the surface and throughout the profile.

The Townley soils are gently sloping to moderately steep and occur on uplands with Enders and Montevallo soils. They have a thinner B horizon than the Enders soils and are shallower over shale. They are deeper than the Montevallo soils, and they have a distinct B horizon, which is lacking in the Montevallo soils.

The following describes a representative profile of Townley loam in a moist, idle area along County Highway No. 44, 1 mile east of the junction with State Highway No. 13 (NW¼NW¼ sec. 18, T. 14 S., R. 10 W.):

Ap—0 to 5 inches, brown (10YR 5/3) loam; weak, fine, granular structure; very friable; many fine roots; 8 percent fragments of shale ¼ to ½ inch in diameter; very strongly acid; abrupt, smooth boundary. 4 to 7 inches thick.

B1—5 to 7 inches, yellowish-red (5YR 5/8) silty clay loam; weak, fine, subangular blocky structure; friable; common fine roots; few fine fragments of shale; few discontinuous clay films on the surfaces of some peds; very strongly acid; clear, smooth boundary. 0 to 4 inches thick.

B2t—7 to 16 inches, red (2.5YR 4/8) silty clay; moderate, medium, subangular blocky structure; firm; clay films on the surfaces of all peds; common fine roots; few fragments of shale; very strongly acid; gradual, wavy boundary. 6 to 12 inches thick.

B3t—16 to 20 inches, yellowish-red (5YR 5/8) silty clay with common, medium, distinct, yellowish-brown (10YR 5/6) mottles; weak, medium, subangular blocky structure; firm; thin clay films on the surfaces of most peds; common, medium fragments of shale; common fine roots; very strongly acid; gradual, wavy boundary. 3 to 6 inches thick.

C—20 to 26 inches, yellowish-brown (10YR 5/6) silty clay with many, medium, distinct, red (2.5YR 4/8), and few, medium, distinct, very pale brown (10YR 7/3) mottles; weak, thick, platy structure similar to that of the level-bedded, unweathered shale; firm; 20 percent fragments of shale ¼ to 1 inch in diameter; very strongly acid; abrupt, wavy boundary.

R—26 inches +, level-bedded shale.

In areas that have not been cleared, the color of the A1 horizon ranges from dark gray (10YR 4/1) to dark grayish brown (10YR 4/2). The color of the Ap horizon ranges from yellowish brown (10YR 5/4) to dark brown (10YR 4/3). In places the B1 horizon is absent, but where it is present, its color ranges from strong brown to yellowish red, and its texture ranges from silt loam to silty clay loam. The color of the B2t horizon ranges from yellowish red (5YR 5/8) to dark red (2.5YR 3/6), and the texture of that horizon ranges from silty clay loam to clay. The color of the B3t horizon ranges from strong brown to red, and the color of the mottles in that horizon ranges from yellow to brown. The color of the mottles in the C horizon ranges from red to brown, very pale brown, or gray. The B3t and the C horizons are absent in some profiles. Depth to bedrock ranges from 15 to 36 inches.

Red-Yellow Podzolic soils intergrading toward Alluvial soils.—The age of these soils is intermediate between that of the Red-Yellow Podzolic soils and that of the Alluvial soils. These soils have weakly expressed, genetically related horizons, however, and they are therefore classified as Red-Yellow Podzolic soils intergrading toward Alluvial soils.

Sequatchie series

The Sequatchie soils are deep and well drained. They formed in material washed mainly from soils derived from shale and sandstone. Mica flakes are common in most profiles.

These soils occur on low stream terraces in narrow valleys with the Leadvale soils. They are better drained than those soils, however, and they do not have a fragipan.

The following describes a representative profile of Sequatchie loam in a cultivated area along the North River, 3¼ miles south of Studdards Crossroads (NE¼SW¼ sec. 8, T. 15 S., R. 10 W.):

Ap—0 to 6 inches, brown to dark-brown (10YR 4/3) loam; weak, fine and medium, granular structure; very friable; few fine roots; few fine and medium fragments of sandstone and shale; few, fine, rounded pebbles of quartz; strongly acid; clear, smooth boundary. 6 to 9 inches thick.

B1—6 to 14 inches, brown to dark-brown (7.5YR 4/2) loam; brown to dark brown (7.5YR 4/4) if crushed; weak, fine, subangular blocky structure; friable; few fine roots; few mica flakes; medium acid; gradual, smooth boundary. 6 to 10 inches thick.

B2t—14 to 32 inches, brown or dark-brown (7.5YR 4/4) silty clay loam; brown or dark brown (7.5YR 4/4) to brown (7.5YR 5/4) if crushed; moderate, fine, subangular blocky structure; friable; few mica flakes; few clay films; strongly acid; gradual, smooth boundary. 10 to 25 inches thick.

B3—32 to 60 inches, brown or dark-brown (7.5YR 4/4) loam; dark brown or brown (10YR 4/3) if crushed; weak, fine, subangular blocky structure; very friable; few, fine, black concretions; few mica flakes; very strongly acid.

C—60 to 72 inches +, yellowish-brown (10YR 5/4) fine sandy loam with common, fine, distinct, brown to dark-brown (10YR 4/3) mottles and few, fine, distinct, light brownish-gray (10YR 6/2) mottles; massive; friable; few mica flakes; few quartz pebbles ¼ to ½ inch in diameter; very strongly acid.

In areas that have not been cleared, the A1 horizon ranges from 2 to 4 inches in thickness and from dark gray

to dark grayish brown in color. The color of the Ap horizon ranges from dark brown to yellowish brown. The color of the B2t horizon ranges from strong brown to yellowish brown, and the texture of that horizon ranges from loam to silty clay loam. The texture of the B3 horizon ranges from fine sandy loam to sandy clay loam, and the color of that horizon ranges from brown to dark brown.

Red-Yellow Podzolic soils intergrading toward Reddish-Brown Lateritic soils.—Like other Red-Yellow Podzolic soils, these soils have a light-colored surface layer. They have a red subsoil, however, like the subsoil in soils of the Reddish-Brown Lateritic group. Therefore, they are classified as Red-Yellow Podzolic soils intergrading toward the Reddish-Brown Lateritic group.

Magnolia series

The Magnolia soils are deep and well drained. They formed in marine sediments consisting of thick beds of unconsolidated, acid sandy clay loam or sandy clay.

These soils are gently sloping and sloping and occur on uplands with Greenville and Ruston soils. They are redder and have a finer textured subsoil than the Ruston soils. They have a lighter colored surface layer than the Greenville soils.

The following describes a representative profile of Magnolia fine sandy loam in a moist, idle area 50 yards northeast of Boley Church and 6 miles east of Berry (NW¼ SE¼ sec. 19, T. 16 S., R. 9 W.) :

Ap—0 to 5 inches, brown to dark-brown (10YR 4/3) fine sandy loam; weak, fine, granular structure; very friable; many fine roots; strongly acid; clear, smooth boundary. 4 to 10 inches thick.

AB—5 to 9 inches, dark reddish-brown (2.5YR 3/4) to dark-red (2.5YR 3/6) clay loam; weak, fine and medium, granular structure; friable; many fine roots; old root channels filled with material from the surface layer; strongly acid; gradual, smooth boundary. 2 to 6 inches thick.

B21t—9 to 19 inches, dark-red (2.5YR 3/6) clay; weak, fine, subangular blocky structure; friable; many fine roots; very strongly acid; gradual, smooth boundary. 8 to 18 inches thick.

B22t—19 to 33 inches, dark-red (2.5YR 3/6) clay or fine sandy clay; weak, fine, subangular blocky structure; friable; few fine roots; very strongly acid; gradual, smooth boundary. 10 to 30 inches thick.

B23t—33 to 63 inches, dark-red (2.5YR 3/6) fine sandy clay loam; weak, fine and medium, subangular blocky structure; firm; few fine roots; ½ to 1 percent black concretions as much as ¼ inch in diameter; compact in place; very strongly acid; gradual, smooth boundary. 20 to 40 inches thick.

B3—63 to 80 inches +, red (10R 4/6) sandy clay loam or heavy fine sandy loam with few, fine, faint, light yellowish-brown mottles; weak, coarse, subangular blocky structure; firm; compact in place; variable concentration of small, rounded quartz pebbles; extremely acid.

The color of the surface layer ranges from yellowish brown to dark brown. The color of the B horizons ranges from reddish brown to dark red, and the texture of those horizons ranges from sandy clay to clay. The texture in the B3 horizon ranges from heavy fine sandy loam to clay, and distinct brown and gray mottles are present in places.

Reddish-Brown Lateritic soils

The Reddish-Brown Lateritic soils do not have the podzolic morphology and the light-gray A2 horizon that is characteristic of the geographically associated Red-Yellow Podzolic soils (*6*). They are well drained and have a dark reddish-brown surface layer that has granular structure. Below the surface layer is a red, friable, clayey B horizon. The B horizon is underlain by red or reticulately mottled, lateritic parent material (*8*).

Greenville series

In the Greenville series are deep, well-drained soils on uplands of the Coastal Plain. The soils formed in thick, unconsolidated beds of sandy clay loam to sandy clay marine sediments.

The Greenville soils occur with the Ruston, Ora, Savannah, and Shubuta soils. They have a darker surface layer and are finer textured than the Ruston soils. They are deeper and more reddish than the Ora and Savannah soils, and they do not have a fragipan. The Greenville soils have a darker surface layer than the Shubuta soils, and they are slightly coarser textured and more friable than those soils.

The following describes a representative profile of Greenville loam in a cultivated area 4½ miles south of Winfield on U.S. Highway No. 43 (NW¼SW¼ sec. 8, T. 14 S., R. 12 W.) :

Ap—0 to 6 inches, dark reddish-brown (5YR 3/4) loam; weak, fine, granular structure; very friable; many fine roots; few fine quartz pebbles; strongly acid; abrupt, smooth boundary. 4 to 8 inches thick.

B21t—6 to 11 inches, dark reddish-brown (2.5YR 3/4) clay loam; weak, medium, subangular blocky structure; friable; common fine roots; few fine quartz pebbles; few old root channels filled with material from the Ap horizon; clay films on the surfaces of peds; medium acid; gradual, smooth boundary. 4 to 10 inches thick.

B22t—11 to 30 inches, dark-red (2.5YR 3/6) clay; red (2.5YR 4/6) when dry; weak, medium, subangular blocky structure; friable to firm; few fine roots; few fine quartz pebbles; few dark-brown concretions ¼ to ½ inch in diameter; clay films on the surfaces of peds; medium acid; gradual, smooth boundary. 10 to 30 inches thick.

B23t—30 to 58 inches, dark-red (2.5YR 3/6) fine sandy clay, red (2.5 YR 4/6) when dry; weak, fine, subangular blocky structure; friable to firm; few fine quartz pebbles; few dark-brown and black concretions ¼ to ½ inch in diameter; clay films on the surfaces of peds; strongly acid; gradual, smooth boundary. 10 to 30 inches thick.

B24t—58 to 66 inches, dark-red (2.5YR 3/6) clay loam with few, fine, distinct, pale-brown, or light yellowish-brown mottles; weak, coarse, subangular blocky structure; friable; few, fine, dark-brown concretions; very strongly acid; gradual, wavy boundary. 4 to 14 inches thick.

B3—66 to 72 inches +, dark-red (2.5YR 3/6) heavy sandy clay loam; weak, coarse, subangular blocky structure; friable; extremely acid.

The color of the Ap horizon ranges from dark brown (7.5 YR 3/2) to dark reddish brown (5 YR 3/3). In some places there is a B1 horizon that ranges from dark reddish brown to dark red in color and from sandy clay loam to clay loam in texture. The color of the B2 horizons ranges from red to dark red or dark reddish brown, and the texture of those horizons ranges from clay loam to sandy clay or clay. The texture of the B3 horizon ranges from fine sandy clay loam to clay loam, and the color of that horizon ranges from red to dark red. In places that horizon is mottled with yellowish brown.

Hanceville series

Deep, well-drained soils on the Southern Appalachian Plateau make up the Hanceville series. The soils formed mainly in material weathered from sandstone, but in places they formed in material weathered from shale.

These gently sloping soils occur on ridgetops with the Enders and Townley soils. They are adjacent to the Montevallo soils. The Hanceville soils have a darker colored surface layer and a coarser textured, more friable subsoil than the Enders soils. They are deeper than the Townley soils and have a darker colored surface layer and a coarser textured subsoil than those soils. They are less sloping than the Montevallo soils and are deeper and redder than those soils. They also have a distinct B horizon, instead of a thin, mainly skeletal, weakly expressed B horizon like that of the Montevallo soils.

The following describes a representative profile of Hanceville loam in a moist, cultivated area along County Highway No. 30, 2¾ miles east of Berry (SW¼SW¼ sec. 12, T. 16 S., R. 10 W.):

Ap—0 to 5 inches, dark reddish-brown (5YR 3/4) loam; weak, fine and medium, granular structure; very friable; common fine roots; few, fine and medium fragments of sandstone and shale; rounded quartz pebbles; very strongly acid; abrupt, smooth boundary. 4 to 8 inches thick.

B21t—5 to 24 inches, dark-red (2.5YR 3/6 to 10R 3/6) clay loam; weak to moderate, fine and medium, subangular blocky structure; friable; few fine roots; few, fine, dark-brown or black concretions; few rounded quartz pebbles; clay films on the surfaces of peds; few fine and medium fragments of sandstone and shale; very strongly acid; gradual, wavy boundary. 10 to 20 inches thick.

B22t 24 to 37 inches, dark-red (2.5YR 3/6) clay loam; moderate, fine and medium, subangular blocky structure; friable; few fine roots; few fine and medium, dark-brown concretions; few, fine, rounded quartz pebbles; few fine and medium fragments of sandstone and shale; clay films on the surfaces of peds; very strongly acid; clear, wavy boundary. 8 to 20 inches thick.

B3—37 to 48 inches, yellowish-red (5YR 4/6) sandy clay loam; common, fine, faint variegations of red and strong brown; weak, coarse, subangular blocky structure; many, medium and coarse fragments of sandstone and shale; very strongly acid.

R—48 inches +, acid sandstone.

The color of the Ap horizon ranges from dark brown (7.5YR 3/2) to dark reddish brown. The color of the B horizons ranges from red to dark red, and the texture of those horizons ranges from sandy clay loam to clay. In places the profile contains a thin B1 horizon consisting of yellowish-red clay loam. Depth to bedrock ranges from 3 to 5 feet.

Planosols

Planosols have one or more horizons abruptly separated from and sharply contrasting to an adjacent horizon because of cementation, compaction, or a high content of clay (*8*). In this county the Planosols formed under forest vegetation in a temperate climate. They have a fluctuating water table. Except for the Leaf soils, which have a claypan, the Planosols mapped in this county have a fragipan.

Planosols that have a fragipan.—The soils of this great soil group have characteristics of Planosols. A fragipan is in the lower part of their subsoil.

Mashulaville series

In the Mashulaville series are deep, poorly drained, nearly level soils that have a fragipan. These soils formed in marine sediments consisting of thick beds of acid silt loam to silty clay or clay. They occur on uplands with the Pheba and Savannah soils but are grayer and more poorly drained than those soils.

The following describes a representative profile of Mashulaville loam in a wooded area 20 yards north of County Highway No. 102, ⅛ mile east of the junction with County Highway No. 45 (SW¼NW¼ sec. 10, T. 15 S., R. 12 W.):

A1—0 to 3 inches, very dark gray (10YR 3/1) loam; weak, fine, granular structure; very friable; many fine roots; few quartz pebbles ⅛ to ¼ inch in diameter; extremely acid; abrupt, smooth boundary. 2 to 4 inches thick.

A21g—3 to 7 inches, light-gray to gray (10YR 6/1) loam with common, fine, distinct mottles of yellowish brown; weak, fine, granular and weak, fine, subangular blocky structure; very friable; many fine and few medium roots; few quartz pebbles ⅛ to ¼ inch in diameter; very strongly acid; clear, wavy boundary. 3 to 6 inches thick.

A22g—7 to 14 inches, gray (N 5/0) fine sandy loam; common medium, distinct mottles of yellowish brown; weak medium, subangular blocky structure; very friable; few fine roots; few quartz pebbles; ⅛ to ¼ inch in diameter; common dark-brown and black concretions ¼ to ¾ inch in diameter; very strongly acid; gradual, wavy boundary. 4 to 12 inches thick.

A'gx&Bgx—14 to 30 inches, gray (10YR 5/1) light loam with many, medium, distinct mottles of yellowish brown, pale brown, and strong brown; weak, coarse, angular blocky structure; friable when moist, hard when dry; many vesicles; common, dark-brown and black concretions ¼ to ¾ inch in diameter; few quartz pebbles ⅛ to ¼ inch in diameter; compact in place, brittle if disturbed; very strongly acid; gradual, wavy boundary. 6 to 30 inches thick.

B'tgx—30 to 54 inches, gray (N 5/0 to 10YR 5/1) heavy silty clay loam with common, medium, distinct mottles of yellowish brown and strong brown; weak coarse, angular blocky structure; firm; common strong-brown concretions ½ to 1 inch in diameter; few quartz pebbles ¼ to ½ inch in diameter; patchy clay films on the surfaces of peds; extremely acid.

The color of the A1 horizon ranges from very dark gray or dark gray to very dark grayish brown, and the thickness of that horizon ranges from 2 to 4 inches. The color of the A2 horizons ranges from gray to light brownish gray mottled with brown in places. The color of the A'gx&Bgx horizon ranges from light gray to dark gray with mottles of yellowish brown, pale brown, and strong brown. The contrast of the mottles ranges from distinct to prominent. The texture of the A'gx&Bgx horizon ranges from fine sandy loam to fine sandy clay loam. Depth to the fragipan ranges from 12 to 24 inches. The color in the lower part of the B'tgx horizon ranges from gray to dark gray with strong-brown and yellowish-brown mottles, and the texture in that part of the horizon ranges from silt loam to silty clay or clay. The number of iron and manganese concretions in the fragipan and in the lower part of the B'tgx horizon ranges from few to many.

Pheba series

The Pheba series consists of deep, somewhat poorly drained, nearly level soils that have a fragipan. These soils formed in marine sediments consisting of stratified beds of acid silt loam, sandy loam, and clay loam.

The Pheba soils occur on uplands with the Savannah and Mashulaville soils. They are grayer and more poorly drained than the Savannah soils and are browner and better drained than the Mashulaville soils. The Pheba soils have a profile somewhat like that of the Tyler and Stough soils, which are also Planosols that have a fragipan. They are less silty, however, than the Tyler soils. Their fragipan shows maximal development rather than minimal to medial development like that in the Stough soils.

The following describes a representative profile of Pheba loam in a wooded area 20 yards north of County Highway No. 102, ¼ mile east of the junction with County Highway No. 45 (SE¼NW¼ sec. 10, T. 15 S., R. 12 W.):

O1—1 inch to 0, black (5Y 2/1), partly decayed pine needles and leaves of hardwood trees.

A1—0 to 2 inches, very dark gray (10YR 3/1) loam; weak, fine, granular structure; very friable; many fine roots; very strongly acid; abrupt, smooth boundary. 1 to 4 inches thick.

A21—2 to 7 inches, light olive-brown (2.5Y 5/4) loam; weak, fine, granular structure; very friable; many fine roots; very strongly acid; gradual, wavy boundary. 3 to 7 inches thick.

A22—7 to 10 inches, light olive-brown (2.5Y 5/4) fine sandy loam or loam; few, fine, faint mottles of yellowish brown; weak, fine, granular and weak, fine, subangular blocky structure; very friable; many fine roots; very strongly acid; gradual, wavy boundary. 2 to 8 inches thick.

A&B—10 to 18 inches, light yellowish-brown (2.5Y 6/4) loam; common, fine, distinct mottles of yellowish brown and light brownish gray; weak, medium, subangular blocky structure; friable; common fine, and few medium roots; few black concretions ¼ to ½ inch in diameter; very strongly acid; gradual, wavy boundary. 6 to 12 inches thick.

A'x&Bx—18 to 30 inches, mottled loam that is strong brown (7.5YR 5/6), yellowish brown (10YR 5/6), light brownish gray (10YR 6/2), light gray to gray (10YR 6/1), pale brown (10YR 6/3), and light olive brown (2.5Y 5/4); mottles are many, fine, and distinct; weak, coarse, subangular blocky structure; compact in place, brittle if disturbed; few vesicles; very strongly acid; gradual, wavy boundary. 6 to 30 inches thick.

IIB'2tx—30 to 54 inches +, light-gray (10YR 6/1) to gray (N 6/0) clay loam with common, medium, distinct mottles of yellowish brown; large polygonal blocks that break to weak, coarse, angular blocky structure; gray along polygonal cracks; clay films on the surfaces of peds; becomes darker gray with increasing depth; very strongly acid.

In areas that have been cultivated, the surface layer ranges from 4 to 6 inches in thickness and from grayish brown to very dark grayish brown in color. The color of the A&B horizon ranges from pale brown to olive brown or light yellowish brown. The contrast of the mottles in the A&B horizon ranges from distinct to prominent, and the color of the mottles in that horizon ranges from brown to gray. The texture of the A&B horizon ranges from fine sandy loam to sandy clay loam. Depth to the fragipan ranges from 14 to 24 inches.

Stough series

In the Stough series are deep, somewhat poorly drained, nearly level soils that have a fragipan. These soils formed in old alluvium washed mainly from uplands of the Coastal Plain.

The Stough soils occur on low stream terraces with Prentiss and Myatt soils. They are grayer and more poorly drained than the Prentiss soils, and they are browner and better drained than the Myatt soils. Unlike the Mantachie soils, the Stough soils have a textural B horizon, no stratification, and weak fragipan development. In contrast to the Pheba soils, which have maximal development in the fragipan, the Stough soils have minimal to medial development in the fragipan.

The following describes a representative profile of Stough loam in an idle area on the eastern side of the Sipsey River, 3¼ miles north of the town of Fayette (SE¼SE¼ sec. 21, T. 15 S., R. 12 W.):

Ap—0 to 5 inches, brown (10YR 5/3 to 10YR 4/3) loam; weak, fine, granular structure; very friable; many fine roots; few dark-brown and black concretions ⅛ to ¼ inch in diameter; very strongly acid; abrupt, wavy boundary. 4 to 8 inches thick.

A2—5 to 10 inches, brown (10YR 5/3 to 10YR 4/3) loam or silt loam; common, medium, distinct mottles of light brownish gray; weak, fine, subangular blocky structure; friable; common fine roots; few fine pores; few root channels filled with fresh deposits of silt or clay; few black concretions ¼ inch in diameter; very strongly acid; gradual, wavy boundary 2 to 10 inches thick.

B1g—10 to 19 inches, light olive-brown (2.5Y 5/4) to brown (10YR 5/3) clay loam; common, fine, distinct mottles of light brownish gray (2.5Y 6/2), light yellowish brown (2.5Y 6/4), and dark yellowish brown (10YR 3/4); weak, fine, subangular blocky structure; friable; few fine roots; few fine pores; few black concretions ¼ to ½ inch in diameter; very strongly acid; clear, wavy boundary. 5 to 15 inches thick.

B2txg—19 to 30 inches, olive-brown (2.5Y 4/4) sandy clay loam; many, medium, distinct mottles of light brownish gray (2.5Y 6/2), light yellowish brown (2.5Y 6/4), and light gray to gray (10YR 6/1); weak, fine and medium, subangular blocky structure; friable; many black and dark-brown concretions ¼ to ½ inch in diameter; few fine pores; some pores contain fresh deposits of silt or clay; very strongly acid; gradual, wavy boundary. 6 to 18 inches thick.

B3g—30 to 59 inches, mottled light brownish-gray (2.5Y 6/2), yellowish-brown (10YR 5/6), dark yellowish-brown (10YR 4/4), light-gray or gray (10YR 6/1), and very dark grayish-brown (10YR 3/2) fine sandy clay loam; mottles are many, medium, and distinct; moderate, fine and medium, subangular blocky structure; friable; many black concretions ¼ to ¾ inch in diameter; coatings of silt and clay between the peds; compact in place; extremely acid; gradual, wavy boundary. 10 to 30 inches thick.

IICg—59 to 72 inches, mottled light-gray or gray (10YR 6/1) and yellowish-brown (10YR 5/6) silt loam; mottles are many, medium, and distinct; massive; firm or very firm; extremely acid. Generally several feet thick.

The color of the Ap horizon ranges from dark grayish brown to brown. In areas that have not been cultivated, the color of the A1 horizon ranges from dark gray to very dark grayish brown. The color of the matrix in the B2txg horizon ranges from pale brown to olive brown, and the color of the mottles ranges from brown to gray. Depth to the fragipan ranges from 16 to 30 inches, and development of the fragipan ranges from minimal to medial. The texture of the lower part of the B horizon ranges from sandy loam to silty clay loam. The number of iron and manganese concretions throughout the profile ranges from few to many, and the size of the concretions ranges from fine to medium.

Tyler series

In the Tyler series are deep, nearly level, somewhat poorly drained soils that have a fragipan. These soils

formed in old alluvium washed from soils of the Southern Appalachian Plateau.

These soils occur on low stream terraces in narrow valleys with the Leadvale and Sequatchie soils, but they are grayer and more poorly drained than those soils. The Tyler soils have a fragipan, which is lacking in the Sequatchie soils. They are more silty than the Pheba soils, and their fragipan is more strongly expressed than that of the Stough soils.

The following describes a representative profile of Tyler loam in a moist, cultivated area along the North River, 5 miles south of Studdards Crossroads (SW¼SW¼ sec. 16, T. 15 S., R. 10 W.):

Ap—0 to 8 inches, brown (10YR 4/3 to 10YR 5/3) loam; weak, fine, granular structure; very friable; many fine roots; few, fine and medium, dark-brown concretions; medium acid; abrupt, smooth boundary. 6 to 10 inches thick.

B1—8 to 11 inches, yellowish-brown (10YR 5/4) silt loam; light olive brown (2.5Y 5/4) when crushed; many, fine, faint mottles of light brownish gray, pale brown, and dark yellowish brown; weak, fine and medium, granular structure and weak, fine subangular blocky structure; friable; few fine roots; strongly acid; abrupt, wavy boundary. 1 to 5 inches thick.

A'g&Bg—11 to 22 inches, yellowish-brown (10YR 5/4) silt loam; light yellowish brown (2.5Y 6/4) when crushed; many, fine, distinct mottles of light gray (10YR 6/1) and pale brown (10YR 6/3); weak to moderate, fine and medium, subangular blocky structure; friable; few fine roots; few, fine and medium, dark-brown concretions; few fine pores; very strongly acid; gradual, wavy boundary. 10 to 20 inches thick.

B'txg—22 to 54 inches, gray or light-gray (10YR 6/1) silty clay loam; light yellowish brown (2.5Y 6/4) when crushed; distinct mottles of light yellowish brown (2.5Y 6/4) and yellowish brown (10YR 5/6); moderate, medium and coarse, angular blocky structure; firm when moist, hard or very hard when dry; many, fine and medium, dark-brown concretions; compact in place, brittle if disturbed; common vesicles; distinct clay films on the surfaces of peds and in the pores and root holes; very strongly acid.

IIC—54 to 72 inches +, yellowish-brown (10YR 5/6) silty clay; many, medium, distinct, light-gray to gray (10YR 6/1) mottles; massive; firm; few dark-brown concretions ¼ to ¾ inch in diameter; very strongly acid. (This horizon sampled with a bucket auger.)

In areas that have not been cleared, the color of the A1 horizon ranges from dark grayish brown to very dark grayish brown. The color of the Ap horizon ranges from grayish brown to brown. The texture of the B1 horizon ranges from silt loam to silty clay loam. The color of the B1 horizon ranges from pale brown to yellowish brown, with faint to distinct mottles of brown and gray below a depth of 6 to 18 inches. Depth to the fragipan ranges from 15 to 30 inches, but it is 20 inches in most places. The number of vesicles in the fragipan ranges from few to many. In places the fragipan is distinctly to prominently mottled with gray and brown, instead of yellowish brown. The mottles in the IIC horizon are brown in some places, and the texture of the IIC horizon ranges from sandy clay loam to silty clay.

Planosols that have a claypan.—These soils have characteristics of Planosols. A claypan is in the lower part of their subsoil.

Leaf series

In the Leaf series are deep, poorly drained soils that have a claypan. These soils formed in fine-textured alluvium washed from uplands of the Coastal Plain.

The Leaf soils occur on low stream terraces with the Stough and Myatt soils, but unlike those soils, they have a claypan. They are grayer and finer textured than the Stough soils, and they are finer textured than the Myatt soils.

The following describes a representative profile of Leaf silt loam on the south side of the road in a wooded area of bottom land along the Sipsey River, three-fourths of a mile east of Newtonville (SE¼SW¼ sec. 27, T. 17 S., R. 12 W.):

A1—0 to 3 inches, dark-gray (10YR 4/1) silt loam; weak, fine, granular structure; friable; many fine roots; strongly acid; clear, wavy boundary. 1 to 4 inches thick.

A2—3 to 6 inches, light brownish-gray (2.5Y 6/2) silt loam with many, fine, distinct, brown (10YR 5/3) mottles; weak, fine, granular and weak, fine, subangular blocky structure; friable; 1 percent soft, dark-brown concretions less than ¼ inch in diameter; few fine mica flakes; strongly acid; clear, wavy boundary. 2 to 6 inches thick.

B1g—6 to 10 inches, light brownish-gray (2.5Y 6/2) silty clay loam with many, medium, distinct, brown to dark-brown (10YR 4/3) mottles; weak, fine, subangular blocky structure; firm; few fine roots; very strongly acid; gradual, wavy boundary. 0 to 8 inches thick.

B21tg—10 to 23 inches, light brownish-gray (2.5Y 6/2) silty clay with many, medium, distinct, yellowish-brown (10YR 5/8) mottles; fine and medium, subangular blocky structure; firm; common fine pores; very strongly acid; gradual, wavy boundary. 6 to 18 inches thick.

B22tg—23 to 36 inches, light brownish-gray (2.5Y 6/2) silty clay with many, coarse, distinct, strong-brown (7.5YR 5/8) mottles; weak, fine and medium, subangular blocky structure; firm; common fine pores; very strongly acid; gradual, wavy boundary. 6 to 18 inches thick.

B23tg—36 to 42 inches +, light-gray to gray (10YR 6/1) silty clay to clay with many, coarse, distinct, strong-brown (7.5YR 5/8) mottles and few, fine, distinct, light yellowish-brown (10YR 6/4) mottles; strong, fine and medium, blocky structure; firm; slightly sticky; 1 to 2 percent dark-brown and black concretions ½ to 1 inch in diameter; thick clay films on the surfaces of peds; very strongly acid.

The color of the A1 horizon ranges from dark gray to dark grayish brown, and the thickness of that horizon ranges from 2 to 5 inches. The texture of the A2 horizon ranges from silt loam to silty clay loam. The color of the B1g horizon ranges from mottled gray or light brownish gray to olive brown, and the color of the mottles ranges from brown to gray. The texture of the B1g horizon ranges from silt loam to silty clay. In places the B2 horizons are mottled with brown or red instead of yellowish brown or strong brown. The lower part of the B horizon is prominently mottled with yellowish brown in some places.

Low-Humic Gley soils

In the Low-Humic Gley great soil group are imperfectly to poorly drained soils. The surface layer of these soils is thin and is moderately high in content of organic matter. It overlies a mottled gray and brown, gleylike horizon that differs only slightly from it in texture (*6*). The parent material of the Low-Humic Gley soils varies widely. In this county the Low-Humic Gley soils are acid and poorly drained. They formed under swamp forest in a temperate to warm-temperate climate.

Atkins series

In the Atkins series are deep, poorly drained, silty soils of the Southern Appalachian Plateau. These soils formed in local alluvium washed from soils derived from shale and sandstone.

The Atkins soils occur on uplands with the Philo and Stendal soils, but they are grayer and more poorly drained than those soils. They are more silty than the Bibb soils.

The following describes a representative profile of Atkins silt loam in an idle area 3 miles north-northeast of Berry (NE¼NW¼ sec. 33, T. 15 S., R. 10 W.):

Ap—0 to 8 inches, grayish-brown (2.5Y 5/2) silt loam with few, fine, faint, brown to dark-brown (10YR 4/3) and light brownish-gray (2.5Y 6/2) mottles; weak, fine, granular structure; very friable; many fine roots; few, soft, dark-brown concretions; gradual, wavy boundary; very strongly acid. 4 to 10 inches thick.

C1g—8 to 20 inches, light-gray to gray (10YR 6/1) silt loam with many, fine, distinct, light brownish-gray (10YR 6/2) and yellowish-brown (10YR 5/6) mottles; weak, fine and medium, granular structure; friable; few fine roots; few fine pores; very strongly acid; gradual, wavy boundary. 10 to 20 inches thick.

IIBbg—20 to 30 inches +, mottled light-gray to gray (10YR 6/1) and light yellowish-brown (10YR 6/4) silty clay; mottles are many, medium, and distinct; massive; firm when moist, hard when dry; common fine pores; very strongly acid.

In areas that have not been cultivated, the color of the A1 horizon ranges from dark gray to very dark grayish brown, and the thickness of that horizon ranges from 4 to 6 inches. The color of the Ap horizon ranges from grayish brown to dark brown mottled with brown to dark brown, light brownish gray, or light gray. The texture in the horizons below the surface layer ranges from loam to silty clay or silty clay loam. In places the profile contains a Bg horizon that ranges from sandy clay loam to silty clay in texture. Where the Bg horizon is present, it is mottled with gray or with gray and brown. Strata of sand occur in some profiles.

Bibb series

In the Bibb series are soils that are deep and poorly drained. These soils formed mainly in material washed from uplands of the Coastal Plain, but material washed from shale and sandstone has had an effect upon their development in some places.

The Bibb soils occur on flood plains with the Mantachie and Iuka soils. They are grayer and more poorly drained, however, than those soils.

The following describes a representative profile of Bibb silt loam in a wooded area 1½ miles northwest of Ashcraft Corner (SE¼SW¼ sec. 29, T. 17 S., R. 13 W.):

A1g—0 to 8 inches, grayish-brown (10YR 5/2) silt loam with common, fine, distinct mottles of yellowish red, light brownish gray, and strong brown; weak, thick, platy structure; friable; many fine roots; few fine pores; very strongly acid; clear, smooth boundary. 3 to 12 inches thick.

C1g—8 to 18 inches, gray (10YR 5/1) silt loam with common, fine, prominent mottles of reddish brown (2.5YR 4/4); massive; friable; common fine roots; few fine pores; very strongly acid; gradual, smooth boundary. 6 to 20 inches thick.

C2g—18 to 25 inches, gray (N 6/0) loam with common, fine, distinct mottles of yellowish red (5YR 4/6) and yellowish brown (10YR 5/6); massive; friable; few fine roots; few fine pores; very strongly acid; gradual, smooth boundary. 3 to 20 inches thick.

C3g—25 to 40 inches +, mottled light-gray to gray (10YR 6/1), yellowish-brown (10YR 5/6), and yellowish-red (5YR 4/6) fine sandy loam; mottles are many, medium, and distinct; massive; friable; few fine pores; few quartz pebbles ¼ to ½ inch in diameter; very strongly acid.

The texture of the A1g horizon ranges from fine sandy loam to silt loam, and the color of that horizon ranges from very dark grayish brown to gray. In places the mottles are absent in that horizon. The color of the C horizons is uniform light gray to dark gray in some areas, but those horizons are prominently or distinctly mottled in other places with shades of brown and red. The texture of the C horizons ranges from sandy loam to silt loam.

Myatt series

In the Myatt series are deep, poorly drained soils formed in alluvium washed from soils of the Coastal Plain uplands.

The Myatt soils occur on low stream terraces with the Prentiss and Stough soils. They are grayer and more poorly drained, however, than those soils.

The following describes a representative profile of Myatt silt loam in a moist, pastured area along the road to the Upper Coastal Plain Experiment Station, 1 mile west of Winfield (NW¼NE¼ sec. 19, T. 13 S., R. 12 W.):

Ap—0 to 5 inches, gray (10YR 5/1 to 6/1) silt loam with common, fine, distinct, yellowish-brown mottles; weak, fine, granular structure; very friable; many fine roots; 1 percent quartz and chert pebbles ¼ inch in diameter; 1 percent soft, dark-brown concretions; very strongly acid; abrupt, smooth boundary. 4 to 7 inches thick.

B1g—5 to 8 inches, light brownish-gray (10YR 6/2) loam or silt loam with few, fine, distinct, yellowish-brown and brownish-yellow mottles; weak, fine, granular and weak, fine, subangular blocky structure; friable; many fine roots; 1 percent quartz and chert pebbles ¼ inch in diameter; very strongly acid; gradual, wavy boundary. 2 to 8 inches thick.

B2g—8 to 32 inches, light-gray (10YR 6/1) fine sandy clay loam with many, coarse, prominent, yellowish-brown mottles; weak, fine, subangular blocky structure; firm; few fine roots; 2 percent quartz and chert pebbles ¼ to ¾ inch in diameter; very strongly acid; gradual, wavy boundary. 15 to 30 inches thick.

C1g—32 to 50 inches, mottled light-gray to gray (10YR 6/1) and strong-brown (7.5YR 5/8) heavy loam; mottles are many, medium, and prominent; massive; friable; 1 percent quartz and chert pebbles ¼ to ¾ inch in diameter; extremely acid; clear, wavy boundary. 10 to 30 inches thick.

IIC2g—50 to 72 inches, mottled light-gray (10YR 6/1), yellowish-brown (10YR 5/6), and strong-brown (7.5YR 5/6) gravelly fine sandy loam; massive; friable; 20 percent quartz and chert pebbles ¼ to ¾ inch in diameter; compact in place; extremely acid.

In areas that have not been cleared, the color of the A1 horizon ranges from very dark gray to very dark grayish brown, and the thickness of that horizon ranges from 2 to 6 inches. The color of the Ap horizon ranges from gray or dark gray to dark brown. In some places the Ap horizon is mottled with light gray. The texture of the B2g horizon ranges from fine sandy loam to silty clay loam, and that horizon is prominently mottled with gray and brown in some places. The texture of the parent material ranges from sandy loam to silty clay loam, and the color of that horizon ranges from gray to a mottled gray and brown.

Alluvial soils

The soils of this group formed in transported and relatively recently deposited material. They show little or no modification of the original material by soil-forming processes.

Iuka series

The Iuka soils are deep and moderately well drained. They formed in material washed from the uplands. Lenses of sand or clay occur throughout the profile.

Iuka soils occur on flood plains with the Ochlockonee, Mantachie, and Bibb soils. They are grayer and more poorly drained than the Ochlockonee soils and are browner and better drained than the Mantachie and Bibb soils.

The following describes a representative profile of Iuka silt loam in a moist, cultivated area along the Sipsey River, 3 miles northeast of Lawrence Mill (SE¼SE¼ sec. 35, T. 14 S., R. 12 W.):

Ap—0 to 6 inches, dark grayish-brown (10YR 4/2) silt loam; weak, fine, crumb structure; friable; common fine roots; few wormholes; few mica flakes; very strongly acid; gradual, smooth boundary. 4 to 6 inches thick.

A12—6 to 20 inches, brown to dark-brown (10YR 4/3) silt loam; weak, fine, crumb structure; friable; few fine roots; common wormholes; few pores filled with material from the Ap horizon; few mica flakes; very strongly acid; clear, wavy boundary. 8 to 16 inches thick.

C1—20 to 32 inches, yellowish-brown (10YR 5/4) loam with many, fine, distinct, light brownish-gray (2.5Y 6/2) mottles and few, fine, distinct, light-gray to gray (10YR 6/1) and reddish-brown (5YR 4/4) mottles; massive; very friable; few mica flakes; extremely acid; gradual, wavy boundary. 6 to 18 inches thick.

C2—32 to 60 inches, light brownish-gray (2.5Y 6/2) loam with many, fine, distinct, brown to dark-brown (7.5YR 4/4) mottles and few, fine, distinct, light-gray to gray (10YR 6/1) mottles; massive; friable; 25 to 35 percent dark-brown and black concretions ¼ to ¾ inch in diameter; few mica flakes; very strongly acid; gradual, wavy boundary. 20 to 60 inches thick.

C3—60 to 78 inches +, mottled light-gray to gray (10YR 6/1), yellowish-brown (10YR 5/6), and light brownish-gray (10YR 6/2) silt loam; mottles are many, fine, and distinct; massive; friable; gray becomes darker with increasing depth; few mica flakes; very strongly acid.

The color of the surface layer ranges from dark gray (10YR 4/1) in wooded areas to brown (10YR 5/3) in cultivated fields. The color of the A12 horizon ranges from yellowish brown to dark brown, and the texture of that horizon ranges from silt loam to sandy loam. Gray and brown mottles occur at a depth ranging from 18 to 30 inches. Mottles in the C horizons range from faint to prominent, and the texture of those horizons ranges from silt loam to sandy loam. Mica flakes are common in many profiles.

Ochlockonee series

The Ochlockonee soils are deep, well drained, and nearly level. They formed in alluvium washed mainly from uplands of the Coastal Plain.

The Ochlockonee soils occur on flood plains with the Iuka, Mantachie, and Bibb soils. They are browner and better drained, however, than those soils.

The following describes a representative profile of Ochlockonee loam in a moist, cultivated area along the Sipsey River, three-quarters of a mile southeast of Hubbertville (SE¼SE¼ sec. 19, T. 14 S., R. 11 W.):

Ap—0 to 8 inches, very dark grayish-brown (10YR 3/2) loam; weak, fine, crumb structure; very friable; many fine roots; common uncoated sand grains; few fine coatings of organic matter; few medium wormholes; very strongly acid; clear, smooth boundary. 6 to 10 inches thick.

AC—8 to 11 inches, 70 percent very dark grayish-brown (10YR 3/2), and 30 percent brown to dark-brown (10YR 4/3) loam; dark brown (10YR 3/3) when mixed; weak, fine, crumb structure; very friable; weak plowpan that is slightly compact; many fine roots; few medium wormholes; very strongly acid; clear, smooth boundary. 2 to 5 inches thick.

C1—11 to 36 inches, brown to dark-brown (10YR 4/3) fine sandy loam; massive; very friable; thin pockets and lenses of clean sand; few fine pores; few fine roots; very strongly acid; gradual, wavy boundary. 20 to 30 inches thick.

C2—36 to 43 inches, 85 percent brown to dark-brown (10YR 4/3) loam, and 15 percent pale-brown (10YR 6/3) loamy sand occurring as thin lenses; massive; very friable; sand lenses are clean and uncoated; very strongly acid; gradual, wavy boundary. 6 to 18 inches thick.

C3—43 to 62 inches +, brown to dark-brown (10YR 4/3) silt loam; massive; friable; few medium splotches where organic matter occurs; few fine pores; very strongly acid.

The color of the surface layer ranges from brown to very dark grayish brown. The color of the AC and C horizons ranges from dark brown or brown to dark yellowish brown, and the texture of those horizons ranges from fine sandy loam to silt loam. In places lenses or pockets of sand occur in the profile. In places mica flakes are present, and faint or distinct mottles of gray and brown are at a depth below 30 inches. Also in places quartz and chert pebbles, ranging in number from few to common, are on the surface and throughout the profile.

Philo series

In the Philo series are deep, moderately well drained, silty soils formed in material washed from soils derived from shale and sandstone. Fragments of shale and sandstone ¼ to ¾ inch in diameter are common on the surface and throughout the profile.

The Philo soils occur in draws and depressions with the Stendal and Atkins soils. They are browner and better drained, however, than those soils. The Philo soils are more silty than the Iuka soils.

The following describes a representative profile of Philo silt loam in a cultivated area 1 mile north of Berry (NE¼ SW¼ sec. 8, T. 16 S., R. 10 W.):

Ap—0 to 5 inches, brown to dark-brown (7.5YR 4/4) silt loam; weak, fine, crumb structure; very friable; common fine roots; very strongly acid; abrupt, smooth boundary. 4 to 8 inches thick.

C1—5 to 25 inches, brown to dark-brown (7.5YR 4/4) silt loam with few, fine, faint mottles of light yellowish brown (10YR 6/4) and very pale brown (10YR 7/4) in the lower part; weak, fine and medium, crumb structure and weak, fine, subangular blocky structure; very friable; common fine roots; very strongly acid; gradual, wavy boundary. 10 to 30 inches thick.

C2—25 to 40 inches +, dark-brown (7.5YR 3/2) loam with few, fine, faint, light yellowish-brown (10YR 6/4) and light brownish-gray (10YR 6/2) mottles; weak to moderate, fine and medium, subangular blocky structure and weak, fine and medium, crumb structure; very friable; strongly acid.

The texture of the surface layer ranges from loam to silt loam, and the color of that layer ranges from brown to

dark yellowish brown. In places there is an AC horizon. In those areas the color of the AC and C horizons ranges from brown to very dark brown, and the texture of those horizons ranges from loam to silty clay loam. The mottles range from faint to distinct in contrast, and from brown to gray in color. Depth to mottling ranges from 18 to 30 inches. Mica flakes are common in some profiles. The thickness of the colluvium ranges from 3 to 6 feet.

Alluvial soils intergrading toward Low-Humic Gley soils.—These soils have characteristics of Alluvial soils. They formed under swamp forest, and perhaps marsh plants in a temperate to warm-temperate climate, however, which is characteristic of the Low-Humic Gley soils. They are therefore classified as Alluvial soils intergrading toward Low-Humic Gley soils.

Mantachie series

The Mantachie soils are deep and somewhat poorly drained. They formed in material washed from the uplands.

The Mantachie soils occur on flood plains with the Ochlockonee, Iuka, and Bibb soils. They are grayer and more poorly drained than the Ochlockonee and Iuka soils, but they are less grayish and are better drained than the Bibb soils.

The following describes a representative profile of Mantachie fine sandy loam in a moist pastured area along Dodson Creek, one-half of a mile east of Wayside Elementary School (NE¼NE¼ sec. 3, T. 14 S., R. 13 W.):

Ap—0 to 6 inches, brown to dark-brown (10YR 4/3) fine sandy loam; weak, fine, crumb structure; very friable; many fine roots; few wormholes; medium acid; abrupt, smooth boundary. 5 to 10 inches thick.

A1—6 to 10 inches, grayish-brown (10YR 5/2) fine sandy loam; weak, fine, crumb structure; very friable; many fine roots; few fine pores; stratified with discontinuous layers of fine sand; strongly acid; clear, wavy boundary. 2 to 8 inches thick.

C1—10 to 25 inches, olive-gray (5Y 5/2) loam with few, fine, distinct mottles of yellowish brown and common, fine, distinct mottles of reddish brown (5YR 4/3); massive; friable; common fine roots and few medium roots; few fine pores; thin, discontinuous layers and small pockets of sand; very strongly acid; clear, wavy boundary. 15 to 30 inches thick.

C2g—25 to 31 inches, dark-gray (5Y 4/1) loam with common, fine, distinct mottles of reddish brown (5YR 4/3); massive; friable; few fine roots; few fine pores; very strongly acid; clear, wavy boundary. 4 to 16 inches thick.

C3g—31 to 45 inches, light-gray to gray (10YR 6/1) fine sandy loam with common, fine, distinct mottles of strong brown (7.5YR 5/6) and reddish brown (5YR 4/3); massive; friable; few fine pores; few coarse roots; very strongly acid; gradual, wavy boundary. 10 to 30 inches thick.

C4g—45 to 72 inches, light-gray to gray (10YR 6/1), strong-brown (7.5YR 5/6), and light olive-brown (2.5Y 5/4) fine sandy loam; mottles are many, medium, and distinct; massive; friable; few coarse roots; extremely acid.

The color of the surface layer ranges from dark gray to brown, and the lower part of that layer is faintly mottled in places. At a depth below 6 to 18 inches, both distinct and prominent mottles are present. In places mottles are various shades of gray instead of brown. The texture of the soil material below the surface layer ranges from sandy loam to sandy clay loam. In places quartz and chert pebbles ¼ to ¾ inch in diameter are on the surface and throughout the profile.

Stendal series

In the Stendal series are deep, silty soils that are somewhat poorly drained. These soils formed in alluvium washed mainly from soils derived from shale and sandstone. Fragments of sandstone and shale are on the surface and throughout the profile.

The Stendal soils occur with the Philo and Atkins soils at the heads of and along small drainageways. They are grayer and more poorly drained than the Philo soils and are less gray and are better drained than the Atkins soils. They are more silty than the Mantachie soils.

The following describes a representative profile of Stendal loam in a moist, cultivated area along George Creek 4½ miles south of Studdards Crossroads (SE¼NW¼ sec. 16, T. 15 S., R. 10 W.):

Ap—0 to 7 inches, brown or dark-brown (10YR 4/3) to brown (10YR 5/3) loam; weak, fine, granular structure; very friable; few fine roots; few fine fragments of sandstone and shale; strongly acid; abrupt, smooth boundary. 5 to 10 inches thick.

AC—7 to 14 inches, dark grayish-brown (10YR 4/2) silt loam; common, fine, faint mottles of pale brown and few, fine, distinct mottles of dark brown (10YR 4/3); moderate, fine, subangular blocky structure; friable; few fine and medium roots; few fine fragments of sandstone and shale; strongly acid; gradual, wavy boundary. 5 to 12 inches thick.

C1g—14 to 30 inches, mottled light brownish-gray (2.5Y 6/2), yellowish-brown (10YR 5/6), and brown to dark-brown (10YR 4/3) silt loam; mottles are many, medium, and distinct; weak, fine and medium, subangular blocky structure; friable; few fine roots; few fine fragments of sandstone and shale; common, fine, dark-brown concretions; few mica flakes; very strongly acid; gradual, wavy boundary. 10 to 20 inches thick.

IIC2g—30 to 42 inches, gray (10YR 6/1), brown to dark-brown (10YR 4/3) and yellowish-brown (10YR 5/6) loam; mottles are many, medium, and distinct; weak, fine, subangular blocky structure; friable; common, fine, dark-brown concretions; common, fine fragments of sandstone and shale; few mica flakes; strongly acid.

The texture of the Ap horizon ranges from sandy loam to silt loam, and the color of that horizon ranges from grayish brown to dark brown. In areas that have not been cultivated, the color of the A1 horizon ranges from dark gray to very dark grayish brown. The texture of the AC and C horizons ranges from loam to silty clay loam. The fragments of sandstone and shale on the surface and in the profile range from few to many in number and from fine to coarse in size.

Lithosols

Lithosols are a group of soils that have no clearly expressed soil morphology. They may consist of a mass of freshly and imperfectly weathered rock fragments (*6*). The most extensive areas of Lithosols are on steep slopes.

Montevallo series

In the Montevallo series are excessively drained soils of the Southern Appalachian Plateau. These soils are shallow over shale that is interbedded with thin strata of sandstone in places. They formed mainly in material weathered from shale.

The Montevallo soils occur on uplands with the Townley, Enders, Hanceville, and Leadvale soils. They are shallower over shale than those soils, however, and they lack the distinct B horizon that is typical of the Townley, Enders, and Hanceville soils. The Montevallo soils lack the fragipan of the Leadvale soils.

The following describes a representative profile of Montevallo shaly silt loam along County Highway No. 27, 1 mile south of the junction with State Highway No. 18 (SW¼SE¼ sec. 1, T. 16 S., R. 10 W.):

A1—0 to 1 inch, very dark gray (10YR 3/1) shaly silt loam; weak, fine, granular structure; very friable; high content of organic matter; many fine roots; common to many fragments of shale 1/16 to ½ inch in diameter; strongly acid; clear, smooth boundary. 1 to 4 inches thick.

A3—1 to 6 inches, yellowish-brown (10YR 5/4) shaly silt loam; weak, fine and medium, granular structure and weak, fine, subangular blocky structure; very friable; common to many fine roots; few coarse roots; common fragments of shale 1/16 to ½ inch in diameter; very strongly acid; gradual, wavy boundary.

B—6 to 14 inches, yellowish-brown (10YR 5/4) shaly silty clay loam; weak, coarse, subangular blocky structure; friable; more than 75 percent partly weathered, fragmented shale; interstices are filled with silty clay loam; contains many fragments of shale ½ to 3 inches in diameter; few fine and coarse roots; very strongly acid; gradual, wavy boundary. 4 to 10 inches thick.

C—14 to 22 inches, light olive-brown (2.5Y 5/4), partly weathered, soft shale with coatings of yellowish-brown (10YR 5/6) silt or clay; highly fractured; firm; easy to dig with a spade; more than 90 percent fragments of shale; roots along fissures; interstices are filled with silty material; very strongly acid; gradual, wavy boundary. 5 to 10 inches thick.

R—22 inches +, light olive-brown to dark yellowish-brown, highly fractured, level- and thin-bedded, fissile shale; slightly hard to dig into.

The color of the A1 horizon ranges from very dark gray to brown. The color of the A3 horizon ranges from pale brown to yellowish brown, and the texture of that horizon ranges from shaly loam to shaly silt loam. The color of the B horizon ranges from light yellowish brown to strong brown, and the texture of that horizon ranges from loam to silty clay loam. The content of shale fragments in the B horizon ranges from 50 to 90 percent. Depth to bedrock ranges from 6 to 24 inches.

Regosols

Regosols are a group of soils that lack definite genetic horizons. These soils are developing in deep, unconsolidated rock (soft mineral deposits). In this county they formed in unconsolidated beds of sandy and gravelly marine sediments.

Guin series

In the Guin series are deep, excessively drained, gravelly soils of the Coastal Plain. These soils formed in thick, unconsolidated beds of sandy and gravelly marine sediments.

The Guin soils occur on the uplands with the Ruston and Cuthbert soils. They are more gravelly than those soils and are less reddish than the Ruston soils. The Guin soils contain less silt and clay than the Cuthbert soils.

The following describes a representative profile of Guin gravelly sandy loam in a wooded area 1 mile west of Whites Chapel (SE¼SE¼ sec. 31, T. 13 S., R. 11 W.):

A1—0 to 4 inches, dark grayish-brown (10YR 4/2) gravelly sandy loam; weak, fine, crumb structure; very friable; many fine roots; 75 percent quartz and chert pebbles ¼ inch to 1½ inches in diameter; strongly acid; clear, wavy boundary. 2 to 6 inches thick.

B—4 to 15 inches, brown (10YR 5/3) to yellowish-brown (10YR 5/4) gravelly sandy loam; weak, fine, crumb structure; very friable; many fine roots; 60 to 75 percent quartz and chert pebbles ¼ inch to 1½ inches in diameter; very strongly acid; gradual, wavy boundary. 5 to 15 inches thick.

C1—15 to 20 inches, light yellowish-brown (10YR 6/4) gravelly loamy sand; weak, fine, crumb structure to structureless; very friable; few fine roots; 75 to 85 percent quartz and chert pebbles ¼ inch to 1½ inches in diameter; very strongly acid; gradual, wavy boundary. 0 to 10 inches thick.

C2—20 to 72 inches +, very pale brown (10YR 7/4) sand and gravel; single grain; very friable; 75 to 85 percent quartz and chert pebbles ¼ inch to 1½ inches in diameter; extremely acid.

The color of the A1 horizon ranges from dark grayish brown to brown, and the thickness of that horizon ranges from 4 to 6 inches. The color of the B horizon ranges from brown or yellowish red to yellowish brown or light yellowish brown, and the texture of that horizon ranges from gravelly sandy loam to gravelly sandy clay loam. The content of gravel in the C horizon ranges from 50 to 90 percent. The gravel is mainly chert, but it includes pebbles of quartz and sandstone. The diameter of the pebbles ranges from ¼ inch to 2 inches. In places the lower part of the C horizon contains layers of silt or clay that range from 4 to 10 inches in thickness.

General Nature of the County

This section is provided mainly for those not familiar with the county. It tells about the climate, geology, physiography, drainage, and natural resources. It also describes the social and industrial development. Unless otherwise indicated, the statistics used are from records of the Bureau of the Census.

Climate [6]

Fayette County has a temperate climate, and rainfall is well distributed throughout the year. The day-to-day weather is controlled largely by the movement of pressure systems across the Nation. During the summer, however, complete exchanges of air masses are few, and tropical maritime air masses persist for long periods.

Records of wind and humidity are not available for Fayette County, but records at Birmingham show that the prevailing winds are from the south and southwest in summer and from the north and northeast in winter. The average speed of these winds is about 8 miles per hour. In the Birmingham area, the strongest wind on record to last 1 minute was 65 miles per hour in May 1951 and again in March 1955.

The average relative humidity at Tuscaloosa, in adjacent Tuscaloosa County, ranges from a low of 66 percent in March and April to a high of 78 percent in July. The average relative humidity for the year is approximately 72 percent. In winter the average relative humidity is

[6] By Arthur R. Long, State climatologist, U.S. Weather Bureau, Montgomery, Ala.

74 percent; in spring, 67 percent; in summer, 76 percent; and in fall, 74 percent.

In the average year, about 77 days have 0.10 inch or more of rain, 39 days have 0.50 inch or more, and 18 days have 1 inch or more. Table 10, compiled from records of the U.S. Weather Bureau at Fayette and Tuscaloosa, gives average monthly and annual temperatures and precipitation for this county.

For the year, the sun is visible on an average of about 57 percent of the daylight hours. The range is from a minimum average of 39 percent in January to a maximum average of 65 percent in October.

Summers are usually long, and the weather is warm from some time in May into September. Breaks in the heat are few during midsummer. In the average summer, a maximum temperature of 100° F. or higher is recorded on about 6 days, or 2 days in June, 2 in July, and 2 in August. Occasionally, a temperature of 100° is recorded in May and in September. A temperature of 90° or higher is recorded on an average of 94 days a year.

Fall is a season of transition. The warm, summery weather that is typical early in September changes to Indian summer in October. Then, prewinter cold spells come in November. Generally, fall is the most pleasant

TABLE 10.—*Temperature and precipitation data*

[All data from Fayette, Fayette County, Ala., except data on snow, which are from Tuscaloosa, Tuscaloosa County, Ala.]

Month	Temperature				Precipitation			
	Average daily maximum	Average daily minimum	Two years in 10 will have at least 4 days with—		Average total	One year in 10 will have—		Average snowfall
			Maximum temperature equal to or higher than—	Minimun temperature equal to or lower than—		Less than—	More than—	
	°F.	°F.	°F.	°F.	Inches	Inches	Inches	Inches
January	56	34	74	17	5.8	2.3	11.3	0.8
February	60	35	75	17	5.9	1.8	10.1	.4
March	66	41	81	26	6.2	2.6	9.8	.1
April	76	49	87	33	4.3	2.1	7.6	.1
May	83	57	93	44	3.7	1.5	5.8	0
June	90	64	100	53	4.4	1.7	8.0	0
July	92	67	100	60	4.4	1.3	9.3	0
August	92	66	99	57	4.0	1.7	7.7	0
September	87	60	97	48	3.1	.5	6.6	0
October	79	47	89	30	2.2	.2	5.0	[1]
November	65	38	79	21	4.2	1.0	9.8	[1]
December	57	32	70	18	4.9	2.1	8.2	.2
Year	75	49	[2] 100	[3] 11	53.1	42.5	65.6	1.6

[1] A trace is less than 0.05 inch.

[2] Average annual highest temperature.
[3] Average annual lowest temperature.

TABLE 11.—*Probabilities of last low temperatures in spring and first in fall*

[All data based on records from Fayette, Ala.]

Probability	Dates for given probability and temperature						
	16° F. or less	20° F. or less	24° F. or less	28° F. or less	32° F. or less	36° F. or less	40° F. or less
Spring:							
1 year in 10 later than.	March 7	March 21	March 24	April 10	April 26	May 9	May 14.
2 years in 10 later than.	March 1	March 7	March 19	April 2	April 20	April 22	May 9.
5 years in 10 later than.	February 4	February 8	March 1	March 21	April 10	April 18	May 5.
Fall:							
1 year in 10 earlier than.	November 5	November 5	October 25	October 20	October 17	October 6	September 28.
2 years in 10 earlier than.	November 26	November 11	November 1	October 24	October 19	October 9	October 1.
5 years in 10 earlier than.	December 15	November 30	November 12	November 4	October 29	October 17	October 9.

season, especially from late in September to early in November. During that period, rainfall is light, the percentage of possible sunshine is high, and extremes in temperature are rare. Table 11 shows the probabilities of the first low temperatures in fall and the last low temperatures in spring.

Winters range from mild to cold but are relatively short. Freezing temperatures occur on about an average of 53 days each year. The chance that several snow flurries will occur during the winter is good, but a snowfall that leaves a cover for more than 1 or 2 days is unusual. In the northern half of the county, however, the snow depth averaged 2 to 4 inches in February 1958, and 7 to 9 inches in February 1960. The average winter has about 6 days when the temperature falls to 20° or lower, 3 days when it falls to 15° or lower, and 1 day when it falls to 10° or lower.

Spring is the most changeable season of the year. In March the days are frequently cold and windy, but in May they are generally warm and pleasant. Local thunderstorms and tornadoes are most likely to occur in spring. Thunderstorms occur on an average of about 64 days a year, with an average in summer of 9 days in June, 11 in July, and 10 in August.

Since records were started nearly 100 years ago, the most disastrous drought (*10*) in this area occurred in 1954. Partial droughts occur once or twice every 10 years. By definition, a drought occurs when the soils hold no water available to plants. A drought day is a day during which no water is available to the plants. The frequency and severity of drought depends on the capacity of the soil to hold available moisture, on the amount and distribution of precipitation, and on the amount of water used or transpired by the plants. Even in a normal year, there are periods when rainfall does not supply the water needed by most crops. Consequently, in most years supplementary irrigation is needed for maximum crop production. During a severe drought, however, the supply of water for irrigation is generally limited or is nonexistent.

Table 12 gives, for four probabilities, the number of drought days likely in each month from April through October for soils having moisture-storage capacities of 1 inch, 2 inches, 3 inches, and 5 inches. These estimates were obtained by using the Penman method for computing evapotranspiration and by defining a drought day as a day during which no moisture is available to plants.

Evapotranspiration is the removal of water from the soil by evaporation and plant transpiration. The rate of evapotranspiration is highest in summer and lowest in winter. In Fayette County the highest daily rate occurs in June and the next highest in July. The following gives the average daily rates of evapotranspiration for each month of the year in inches of water lost:

Month—	*Inches*	Month—Continued	*Inches*
January	0.026	July	0.154
February	.048	August	.141
March	.067	September	.120
April	.107	October	.080
May	.142	November	.043
June	.173	December	.024

The total possible amount of stored moisture available to plants varies as the result of differences in the soils and in the depth of the root zone of the plants to be grown. For a soil that has a storage capacity of 2 inches, for example, the chances are 5 in 10 there will be 17 drought days in June.

TABLE 12.—*Probability of drought days on soils of four different moisture-storage capacities*

Probability by month [1]	Minimum drought days if soil has a moisture-storage capacity [2] of—			
	1 inch	2 inches	3 inches	5 inches
April:				
1 to 10	15	10	0	0
2 in 10	11	6	0	0
3 in 10	8	2	0	0
5 in 10	3	0	0	0
May:				
1 in 10	25	22	16	1
2 in 10	21	17	11	0
3 in 10	18	14	7	0
5 in 10	14	9	2	0
June:				
1 in 10	27	27	25	22
2 in 10	25	24	21	17
3 in 10	23	22	18	12
5 in 10	19	17	13	3
July:				
1 in 10	23	23	22	21
2 in 10	20	19	18	15
3 in 10	18	16	15	11
5 in 10	14	11	9	4
August:				
1 in 10	26	24	23	23
2 in 10	23	20	17	16
3 in 10	20	16	14	11
5 in 10	16	11	8	4
September:				
1 in 10	25	24	24	22
2 in 10	21	19	18	16
3 in 10	18	15	14	12
5 in 10	13	9	7	6
October:				
1 in 10	25	23	23	22
2 in 10	21	20	19	18
3 in 10	18	17	15	14
5 in 10	13	10	5	0

[1] The months of January, February, March, November, and December are not shown, because crops are rarely damaged by drought in those months.

[2] The moisture-storage capacity of soils is expressed as the depth of water that a soil can hold and make available to plants.

Geology, Physiography, and Drainage

Most of the eastern one-third of Fayette County is underlain by rocks of the Pottsville formation of Pennsylvanian age. The western two-thirds of the county is underlain by the Tuscaloosa formation of the Upper Cretaceous system (*1*). The Pottsville formation in this county consists of a succession of similar beds of shale and sandstone. Material weathered from this shale and sandstone makes up the parent material of the soils in the eastern one-third of the county. The beds of shale and sandstone are in the Warrior coalfield. Coal mining is common in this field, but not much coal is mined in Fayette County.

The Tuscaloosa formation consists of light-colored, irregularly bedded sand, clay, and gravel about 1,000 feet thick. These materials are poorly consolidated, but they support steep slopes. The clay is massive in part and laminated in part. The gravel is dominantly chert and occurs chiefly in the basal beds of the formation near their contact with the underlying rock. Mica is a common constituent of this formation.

The Southern Appalachian Plateau occupies about the eastern one-third of the county, and the Upper Coastal Plain occupies the western two-thirds. The part occupied by the Plateau is chiefly a broad ridge, thoroughly dissected by dendritic drainage systems. It is characterized by narrow ridgetops, steep side slopes, and narrow, winding hollows that have nearly level bottoms. There are a few fairly broad ridgetops and small upland benches.

In the areas where the Coastal Plain and the Southern Appalachian Plateau are adjacent, the topography of the Coastal Plain differs only slightly from that of the Plateau. The Coastal Plain is a decidedly hilly upland, except where it has been modified by terrace-forming processes along the sides of the river valleys. Some broad, gently sloping areas occur throughout the county.

The elevations in Fayette County range from approximately 240 feet above sea level at the point where the Sipsey River leaves the county to about 600 feet above sea level at a point along the northern boundary of the county near the community of Glen Allen. In most places the elevation is 300 to 500 feet above sea level. At Fayette the elevation is 355 feet, at Bankston it is 358 feet, and at Glen Allen it is 595 feet. The general slope of the county is toward the south.

The North and Sipsey Rivers and Luxapallila Creek are the major streams in the county. They flow in a southwestern, southern, or southeastern direction. The North River empties into the Black Warrior River in Tuscaloosa County. The Sipsey River and Luxapallila Creek empty into the Tombigbee River. Other large creeks are Dodson, Bear, Sugar, Boxes, Barron, Hell, Cedar, and Beaver. A small area in the northwestern part of the county is drained by Yellow Creek, and a small area in the northeastern part of the county is drained by Wolf Creek.

Natural Resources

Soils, water, and forests are the main natural resources of the county. Minor resources are coal, clay, sand, gravel, oil, and gas. The soils and forests are discussed in detail in other sections of the report and will not be discussed here.

The water supply is adequate for domestic use in all parts of the county. The principal streams flow throughout the year, but most of the small streams dry up late in summer and in fall. The Sipsey River furnishes water for domestic and industrial use in the town of Fayette. Wells supply water for the community of Berry, and dug or drilled wells provide water for homes in the rural areas. The dug wells are generally 25 to 50 feet deep, but the drilled wells are deeper, or from 75 to 125 feet in depth. In many places water from the wells has been piped into the home. Ponds have been built on many farms to furnish water for livestock and for fishing. According to information supplied by the Fayette County Soil Conservation District, there are about 250 farm ponds in the county.

Coal has been mined in the eastern one-third of the county. Not much is mined at the present time, but there is a potential for coal mining in this area.

The Tuscaloosa formation supplies sand and gravel in some places in the county, and deposits of sand and gravel occur in various areas in the western two-thirds of the county. These deposits also occur in isolated areas in the eastern one-third of the county where remnants of the Tuscaloosa formation overlie shale and sandstone. The Tuscaloosa formation contains some oil and gas. However, little is known about other oil and gas resources in the county. Much of the clay in the county can be used to make brick, tile, pottery, artware, and material used in construction.

Agriculture

Cotton and corn are the principal crops grown in this county. Cotton is the most important cash crop. Much of the corn is fed to livestock. As more land is used for trees, there has been a gradual trend toward growing fewer row crops. Most of the row crops are grown on the broad bottom lands and narrow stream terraces, on the upland flats, or on the toe slopes and narrow, nearly level strips in the hollows (fig. 25). Better management practices and greater use of commercial fertilizer have increased crop yields each year.

Table 13 shows the number of acres planted to the principal crops in 1949, 1954, and 1959. The Alabama Department of Agriculture and Industries reports that 19,600 acres in this county was used for corn in 1961 and that 9,050 acres was used for cotton.

Income from the sale of livestock and livestock products makes up about half of the farm income in the county. Table 14 shows the number of livestock and poultry on farms in the years 1949, 1954, and 1959. The production of broilers has increased tremendously in the past few years.

Figure 25.—**A farm in an area of narrow hollows and toe slopes. Cotton is in the foreground, and corn is on the toe slopes in the background. The timber is on Ruston-Cuthbert association, 15 to 50 percent slopes.**

TABLE 13.—*Acreage of principal crops*

Crops	1949	1954	1959
Corn for all purposes	34,179	31,291	23,548
Cotton harvested	18,032	9,898	7,329
Sorghum for all purposes	333	243	483
Oats harvested	585	1,043	77
Hay crops:			
Alfalfa	137	61	84
Lespedeza	2,329	1,433	683
Small grain	234	935	168
Other hay cut	799	368	367
Cropland harvested	59,958	47,582	34,430
Pasture:			
Cropland used only for pasture	11,754	4,911	5,280
Woodland pasture	26,865	30,930	17,855
Other pasture	12,136	16,418	13,166

TABLE 14.—*Number and kinds of livestock on farms*

Livestock	1949	1954	1959
Cattle and calves	6,758	9,384	7,497
Milk cows	3,080	2,814	2,039
Hogs and pigs	6,007	6,058	6,311
Chickens more than 4 months old	74,792	84,680	105,693
Broilers sold	(1)	357,860	757,900
Horses and mules	3,659	2,048	1,134

[1] Not reported.

About 82 percent of the county, or approximately 330,000 acres, is wooded, and large quantities of lumber and pulpwood are produced and sold through local dealers. Income from the sale of wood products makes up a large part of the total income of the farmers.

In 1959 about 48 percent of the county, or 190,787 acres, was classified as land in farms. About 24 percent of this acreage was used for field crops, and about 9 percent was used for pasture. The 1,340 farms ranged in size from less than 10 acres to more than 1,000 acres. The following shows the number of farms in various size groups for the years 1949 and 1959:

Size in acres:	1949	1959
Under 10	100	43
10 to 49	905	355
50 to 69	282	155
70 to 99	443	239
100 to 139	296	173
140 to 179	202	116
180 to 219	139	84
220 to 259	53	44
260 to 499	119	93
500 to 999	35	29
Over 1,000	5	9

In 1954 commercial fertilizer was used on 44,616 acres, and a total of 355 tons of lime was used on 734 acres. In 1959 commercial fertilizer was used on 33,481 acres in this county, and a total of 2,195 tons of lime was used on 2,235 acres.

In 1959 full owners operated 756 farms, and part owners operated 294 farms. Tenants operated 288 farms, or about 21 percent of all the farms in the county. Only two farms were operated by a farm manager.

In 1944 the Fayette Experimental Forest, a forestry substation of the Alabama Agricultural Experiment Station, was established about 10 miles north of the town of Fayette. It occupies 1,356 acres. Also in 1944, the Upper Coastal Plain Experiment Station, a substation of the Alabama Agricultural Experiment Station, was established about 18 miles north of Fayette, near the Marion County line. It occupies 735 acres.

Social and Industrial Development

Fayette County is located in the northwestern part of Alabama. It was created on December 20, 1824, and was named for Gen. LaFayette, the Revolutionary War hero. The town of Fayette was chosen as the county seat. The territory had undoubtedly been a common hunting ground for the Creeks, Choctaws, and Chickasaws. It was included in the Cession of the Chickasaw Council House, which met on September 20, 1816 (*4*).

The county has 4 high schools, 6 junior high schools, and 11 elementary schools. Churches of many denominations are distributed throughout the county. A public library, a hospital, a nursing home, and a Public Health center are located in the town of Fayette.

The Alabama Power Company furnishes all the electricity used in the county, and electricity is available in all parts of the county. All of the towns and communities and many rural areas have telephone service. A radio station is located in the town of Fayette. The county has a newspaper that is published 5 days a week and a newspaper that is published weekly. Two banks are located in the town of Fayette and one in Berry.

One railroad line runs in a general east-west direction through the county. Another barely enters the county near Glen Allen, then runs back into Marion County. One busline runs east and west through the county, and several trucklines serve the area. Just north of Fayette is a small airport.

The county has 1,086 miles of roads. There are 412 miles of paved roads; of these, 137 miles are State and Federal roads, and 275 miles are farm-to-market and county roads.

The town of Fayette has a Youth Center and a swimming pool, and Berry has a swimming pool. A 320-acre State park, where there is a 65-acre lake used only for fishing, is located 7 miles southeast of Fayette. In addition, three fairly large private lakes that cover a total of 185 acres are located in other parts of the county. For a fee, these lakes are available to the public for fishing. About 250 other private ponds that provide opportunities for fishing are in various parts of the county.

Small game animals, such as squirrel, rabbit, raccoon, quail, dove, fox, and opossum, provide good hunting in all parts of the county. Numbers of deer and wild turkey are increasing in some parts of the county. The State Department of Conservation supervises a management area where deer, quail, squirrel, rabbit, dove, raccoon, opossum, and fox can be hunted. This area is along the eastern side of Fayette County and in part of Walker County. Deer were stocked in this area a few years ago, and hunting has been allowed for the past two seasons. The area was stocked with wild turkey early in the spring of 1962, but hunting is not yet permitted.

Industry has increased tremendously in Fayette County in the past several years. The county now has a textile mill, two garment factories, a chick hatchery, a soft drink bottling plant, a dairy processing plant, a plant where sirup is processed, a plant where shoe polish is manufactured, a concrete products company, a grain and feed company, a seed company, a machine shop, a sheet metal works, a food-processing and quick-freeze plant, and a plant where plastic hospital supplies are manufactured. In addition, there are five cotton gins and many lumber companies and sawmills (fig. 26) in the county.

Figure 26.—**A permanent, medium-sized sawmill in Fayette County. Timber products are an important source of income in this county.**

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Glossary

Aggregate, soil. Many fine particles held in a single mass or cluster, such as a clod, crumb, block, or prism.

Alluvium. Soil material, such as sand, silt, or clay, that has been deposited on land by streams.

Available moisture capacity. The capacity of a soil to hold water in a form available to plants. The amount of moisture held in a soil between field capacity, or about one-third atmosphere of tension, and the wilting coefficient, or about 15 atmospheres of tension. In this report the terms used to describe the estimated available moisture capacity in inches of water per 60 inches of soil depth are *very high*—12 inches or more; *high*—9 to 12 inches; *moderate*—6 to 9 inches; *low*—3 to 6 inches; and *very low*—less than 3 inches.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt. See also Texture, soil.

Colluvium. Soil material, rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent; will not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material, and tends to stretch somewhat and pull apart, rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard and brittle; little affected by moistening.

Erosion. The wearing away of the land surface by wind, running water, and other geologic agents.

Fertility, soil. The quality of a soil that enables it to provide compounds in adequate amounts and in proper balance for the growth of specified plants, when other growth factors, such as light, moisture, temperature, and the physical condition, or tilth, of the soil, are favorable.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Fragipan. A loamy, brittle, subsurface horizon that is very low in organic matter and clay but is rich in silt or very fine sand. The layer is seemingly cemented when dry, has a hard or very hard consistence, and has high bulk density in comparison with the horizon or horizons above it. When moist, the fragipan tends to rupture suddenly if pressure is applied, rather than to deform slowly. The layer is generally mottled, is slowly or very slowly permeable to water, and has few or many bleached fracture planes that form polygons. Fragipans are a few inches to several feet thick; they generally occur below the B horizon, 15 to 40 inches below the surface.

Genesis, soil. The manner in which a soil originated, with special reference to the processes responsible for the development of the solum, or true soil, from the unconsolidated parent material.

Horizon, soil. A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes.

Infiltration. The downward entry of water into the immediate surface of a soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Leaching. The removal of soluble material from soils or other material by percolating water.

Loam. Soil material that contains 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. See also Texture, soil.

Mapping unit. Any soil, miscellaneous land type, soil complex, or group of undifferentiated soils shown on the detailed soil map and identified by a letter symbol.

Morphology, soil. The makeup of the soil, including the texture, structure, consistence, color, and other physical, chemical, mineralogical, and biological properties of the various horizons that make up the soil profile.

Mottled. Irregularly marked with spots of different colors that vary in number and size. Mottling in soils usually indicates poor aeration and lack of drainage. Descriptive terms are as follows: Abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are these: *fine,* less than 5 millimeters (about 0.2 inch) in diameter along the greatest dimension; *medium,* ranging from 5 millimeters to 15 millimeters (about 0.2 to 0.6 inch) in diameter along the greatest dimension; and *coarse,* more than 15 millimeters (about 0.6 inch) in diameter along the greatest dimension.

Parent material (soil). The horizon of weathered rock or partly weather soil material from which soil has formed; horizon C in the soil profile.

Permeability, soil. The quality of a soil horizon that enables water or air to move through it. Terms used to describe permeability are as follows: *Very slow, slow, moderately slow, moderate, moderately rapid, rapid,* and *very rapid.*

Profile, soil. A vertical section of the soil through all its horizons and extending into the parent material.

Reaction, soil. The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is precisely neutral in reaction because it is neither acid nor alkaline. An acid, or "sour," soi lis one that gives an acid reaction; an alkaline soil is one that is alkaline in reaction. In words, the degrees of acidity or alkalinity are expressed thus:

	pH		*pH*
Extremely acid	Below 4.5	Neutral	6.6 to 7.3
Very strongly acid	4.5 to 5.0	Mildly alkaline	7.4 to 7.8
Strongly acid	5.1 to 5.5	Moderately alkaline	7.9 to 8.4
Medium acid	5.6 to 6.0	Strongly alkaline	8.5 to 9.0
Slightly acid	6.1 to 6.5	Very strongly alkaline	9.1 and higher

Sand. Individual rock or mineral fragments in soils having diameters ranging from 0.05 millimeter to 2.0 millimeters. Most sand grains consist of quartz, but they may be of any mineral composition. The textural class name of any soil that contains 85 percent or more sand and not more than 10 percent clay. See also Texture, soil.

Silt. Individual mineral particles in a soil that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). Soil of the silt textural class is 80 percent or more silt and less than 12 percent clay. See also Texture, soil.

Soil. A natural, three-dimensional body on the earth's surface that supports plants and that has properties resulting from the integrated effect of climate and living matter acting upon parent material, as conditioned by relief over periods of time.

Structure, soil. The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular. Structureless* soils are (1) *single grain* (each grain by itself, as in dune sand) or (2) *massive* (the particles adhering together without any regular cleavage, as in many claypans and hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the profile below plow depth.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surplus runoff so that it may soak into the soil or flow slowly to a prepared outlet without harm. Terraces in fields are generally built so they can be farmed. Terraces intended mainly for drainage have a deep channel that is maintained in permanent sod.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay.* The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine." See also Clay; Loam; Sand; Silt.

Tilth, soil. The condition of the soil in relation to the growth of plants, especially soil structure. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable, granular structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

Topsoil. A presumed fertile soil or soil material, ordinarily rich in organic matter, used to topdress roadbanks, lawns, and gardens.

GUIDE TO MAPPING UNITS, CAPABILITY UNITS, WOODLAND SUITABILITY GROUPS, AND WILDLIFE GROUPS

[Table 1, p. 8 , gives the acreage and proportionate extent of the soils, and table 2, p. 46 , gives the estimated yields of crops. Facts about the uses of the soils for engineering are described in the section "Engineering Properties of Soils"]

Map symbol	Mapping unit	Page	Capability unit		Woodland suitability group		Wildlife group	
			Symbol	Page	Number	Page	Number	Page
At	Atkins soils, local alluvium	9	IIIw-11	41	7	56	7	63
Bb	Bibb soils	9	IVw-11	43	2	49	7	63
Bc	Bibb soils, local alluvium	9	IIIw-11	41	2	49	7	63
EcB3	Enders clay loam, 2 to 6 percent slopes, severely eroded	10	IIIe-44	41	10	57	8	63
EcC3	Enders clay loam, 6 to 10 percent slopes, severely eroded	11	IVe-444	43	10	57	8	63
EcD3	Enders clay loam, 10 to 15 percent slopes, severely eroded	11	VIe-111	44	10	57	8	63
EdB	Enders loam, 2 to 6 percent slopes	10	IIe-44	38	9	56	1	59
EdB2	Enders loam, 2 to 6 percent slopes, eroded	10	IIe-44	38	9	56	1	59
EdC	Enders loam, 6 to 10 percent slopes	10	IIIe-44	41	9	56	1	59
EdC2	Enders loam, 6 to 10 percent slopes, eroded	11	IIIe-44	41	9	56	1	59
EdD	Enders loam, 10 to 15 percent slopes	11	IVe-19	42	9	56	4	62
EdD2	Enders loam, 10 to 15 percent slopes, eroded	11	IVe-19	42	9	56	4	62
Ga	Gravel pit	--	------	--	--	--	--	--
GcC3	Greenville clay loam, 2 to 10 percent slopes, severely eroded	12	IVe-111	42	3	49	8	63
GmA	Greenville loam, 0 to 2 percent slopes	12	I-42	36	3	49	1	59
GmB2	Greenville loam, 2 to 6 percent slopes, eroded	12	IIe-11	37	3	49	1	59
GmC2	Greenville loam, 6 to 10 percent slopes, eroded	12	IIIe-12	40	3	49	1	59
GnD	Guin gravelly sandy loam, 6 to 15 percent slopes	13	VIe-19	44	6	56	4	62
Gu	Gullied land	13	VIIe-49	45	13	57	8	63
HaB2	Hanceville loam, 2 to 6 percent slopes, eroded	13	IIe-11	37	9	56	1	59
Ik	Iuka silt loam	14	IIw-12	39	2	49	5	63
Io	Iuka-Ochlockonee complex, local alluvium	14	IIw-11	39	2	49	5	63
LdB	Leadvale loam, 2 to 6 percent slopes	14	IIe-15	38	8	56	1	59
MaC2	Magnolia fine sandy loam, 2 to 10 percent slopes, eroded	15	IIIe-12	40	3	49	1	59
Mc	Mantachie fine sandy loam	15	IIw-12	39	2	49	6	63
Mh	Mantachie soils, local alluvium	15	IIw-11	39	2	49	6	63
Mk	Mantachie, Leaf, and Iuka soils	16	-------	39	2	49	--	--
Mm	Mashulaville loam	16	IVw-11	43	2	49	7	63
MoC	Montevallo shaly silt loam, 6 to 10 percent slopes	17	IVe-49	43	12	57	4	62
MoC3	Montevallo shaly silt loam, 6 to 10 percent slopes, severely eroded	17	VIe-111	44	12	57	4	62
MoD	Montevallo shaly silt loam, 10 to 15 percent slopes	17	VIe-19	44	12	57	4	62
MoD3	Montevallo shaly silt loam, 10 to 15 percent slopes, severely eroded	18	VIIe-49	45	12	57	4	62
MoE	Montevallo shaly silt loam, 15 to 50 percent slopes	18	VIIe-49	45	12	57	4	62
MoE3	Montevallo shaly silt loam, 15 to 50 percent slopes, severely eroded	18	VIIe-49	45	12	57	4	62
My	Myatt silt loam	19	IVw-11	43	2	49	7	63
Oc	Ochlockonee loam	19	IIw-12	39	2	49	5	63

GUIDE TO MAPPING UNITS, CAPABILITY UNITS, WOODLAND SUITABILITY GROUPS, AND WILDLIFE GROUPS--CONTINUED

Map symbol	Mapping unit	Page	Capability unit		Woodland suitability group		Wildlife group	
			Symbol	Page	Number	Page	Number	Page
Od	Ochlockonee sandy loam	19	IIw-12	39	2	49	5	63
OfB2	Ora fine sandy loam, 2 to 6 percent slopes, eroded	20	IIe-15	38	1	49	3	61
OfC	Ora fine sandy loam, 6 to 10 percent slopes	20	IIIe-15	40	1	49	3	61
OfC2	Ora fine sandy loam, 6 to 10 percent slopes, eroded	20	IIIe-15	40	1	49	3	61
OfD2	Ora fine sandy loam, 10 to 15 percent slopes, eroded	21	IVe-11	42	1	49	4	62
OrC3	Ora sandy clay loam, 6 to 10 percent slopes, severely eroded	20	IVe-111	42	1	49	8	63
Pb	Pheba loam	21	IIIw-12	41	5	56	6	63
Ph	Philo soils, local alluvium	22	IIw-11	39	7	56	5	63
PrA	Prentiss fine sandy loam, 0 to 2 percent slopes	22	IIw-15	39	5	56	3	61
PrB2	Prentiss fine sandy loam, 2 to 6 percent slopes, eroded	22	IIe-15	38	5	56	3	61
Rd	Rock land	22	VIIe-49	45	13	57	4	62
RfA	Ruston fine sandy loam, 0 to 2 percent slopes	23	I-42	36	3	49	1	59
RfB	Ruston fine sandy loam, 2 to 6 percent slopes	23	IIe-12	37	3	49	1	59
RfB2	Ruston fine sandy loam, 2 to 6 percent slopes, eroded	23	IIe-12	37	3	49	1	59
RfC	Ruston fine sandy loam, 6 to 10 percent slopes	24	IIIe-12	40	3	49	1	59
RfC2	Ruston fine sandy loam, 6 to 10 percent slopes, eroded	24	IIIe-12	40	3	49	1	59
RfD	Ruston fine sandy loam, 10 to 15 percent slopes	24	IVe-11	42	3	49	4	62
RfD2	Ruston fine sandy loam, 10 to 15 percent slopes, eroded	24	IVe-11	42	3	49	4	62
RfE	Ruston fine sandy loam, 15 to 25 percent slopes	25	VIe-19	44	3	49	4	62
RsC3	Ruston sandy clay loam, 6 to 10 percent slopes, severely eroded	24	IVe-111	42	3	49	8	63
RsD3	Ruston sandy clay loam, 10 to 15 percent slopes, severely eroded	24	VIe-111	44	3	49	8	63
RtE	Ruston-Cuthbert association, 15 to 50 percent slopes	27	1/ VIe-19	44	4	49	--	--
			2/ VIIe-19	44	4	49	--	--
RxC	Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes	25	1/ IIIe-12	40	4	49	2	60
			2/ VIe-19	44	4	49	2	60
			3/ IIIe-44	41	4	49	2	60
RxC2	Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes, eroded	25	1/ IIIe-12	40	4	49	2	60
			2/ VIe-19	44	4	49	2	60
			3/ IIIe-44	41	4	49	2	60
RxD	Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes	26	1/ IVe-11	42	4	49	4	62
			2/ VIe-19	44	4	49	4	62
			3/ IVe-19	42	4	49	4	62

GUIDE TO MAPPING UNITS, CAPABILITY UNITS, WOODLAND SUITABILITY GROUPS, AND WILDLIFE GROUPS--CONTINUED

Map symbol	Mapping unit	Page	Capability unit		Woodland suitability group		Wildlife group	
			Symbol	Page	Number	Page	Number	Page
RxD2	Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes, eroded	26	1/ IVe-11	42	4	49	4	62
			2/ VIe-19	44	4	49	4	62
			3/ IVe-19	42	4	49	4	62
Sa	Sandy alluvial land	27	VIIe-49	45	13	57	6	63
SbA	Savannah loam, 0 to 2 percent slopes	27	IIw-15	39	5	56	3	61
SbB	Savannah loam, 2 to 6 percent slopes	28	IIe-15	38	5	56	3	61
SbB2	Savannah loam, 2 to 6 percent slopes, eroded	28	IIe-15	38	5	56	3	61
SbC2	Savannah loam, 6 to 10 percent slopes, eroded	28	IIIe-15	40	5	56	3	61
Sc	Sequatchie loam	28	I-42	36	9	56	1	59
StB2	Shubuta fine sandy loam, 2 to 6 percent slopes, eroded	29	IIe-44	38	4	49	2	60
SfC	Shubuta fine sandy loam, 6 to 10 percent slopes	29	IIIe-44	41	4	49	2	60
SfC2	Shubuta fine sandy loam, 6 to 10 percent slopes, eroded	29	IIIe-44	41	4	49	2	60
SfD	Shubuta fine sandy loam, 10 to 15 percent slopes	30	IVe-19	42	4	49	4	62
SfD2	Shubuta fine sandy loam, 10 to 15 percent slopes, eroded	30	IVe-19	42	4	49	4	62
ShC2	Shubuta-Boswell complex, 6 to 10 percent slopes, eroded	30	IVe-19	42	4	49	2	60
ShD2	Shubuta-Boswell complex, 10 to 15 percent slopes, eroded	30	IVe-19	42	4	49	4	62
ShE	Shubuta-Boswell complex, 15 to 50 percent slopes	30	VIIe-19	44	4	49	4	62
Sn	Stendal soils, local alluvium	31	IIw-11	39	7	56	6	63
StA	Stough loam, 0 to 2 percent slopes	31	IIIw-12	41	2	49	6	63
Tc	Terrace escarpments	32	VIIe-19	44	13	57	4	62
TmB2	Townley loam, 2 to 6 percent slopes, eroded	32	IIIe-44	41	11	57	4	62
TmC	Townley loam, 6 to 10 percent slopes	33	IVe-49	43	11	57	4	62
TmC2	Townley loam, 6 to 10 percent slopes, eroded	33	IVe-49	43	11	57	4	62
TmD2	Townley loam, 10 to 15 percent slopes, eroded	33	VIe-19	44	11	57	4	62
TnB3	Townley silty clay loam, 2 to 6 percent slopes, severely eroded	32	IVe-444	43	11	57	8	63
TnC3	Townley silty clay loam, 6 to 10 percent slopes, severely eroded	33	VIe-111	44	11	57	8	63
TnD3	Townley silty clay loam, 10 to 15 percent slopes, severely eroded	33	VIe-111	44	11	57	8	63
Ty	Tyler loam	34	IIIw-12	41	8	56	6	63

1/ Ruston soil only.

2/ Cuthbert soil only.

3/ Shubuta soil only.

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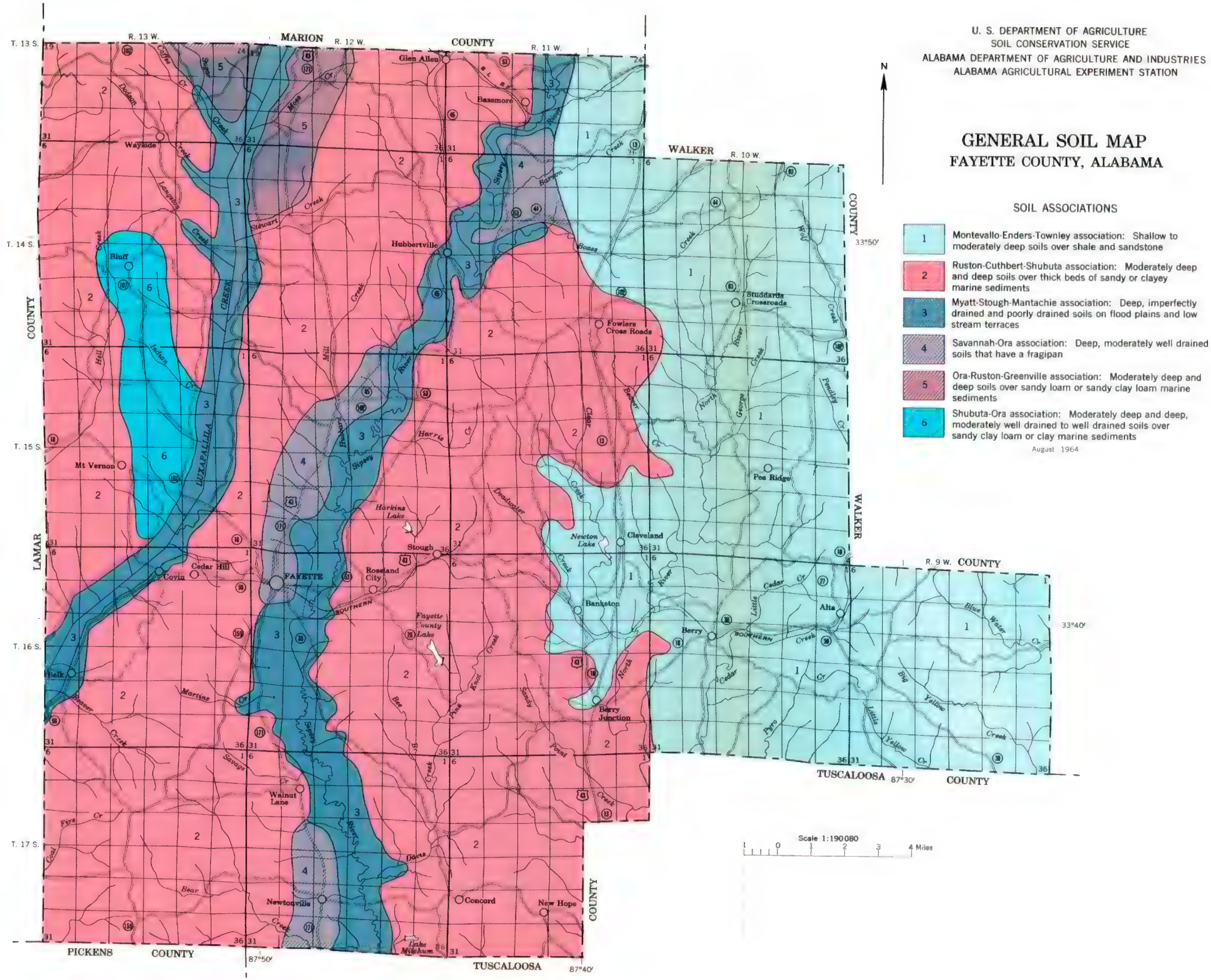
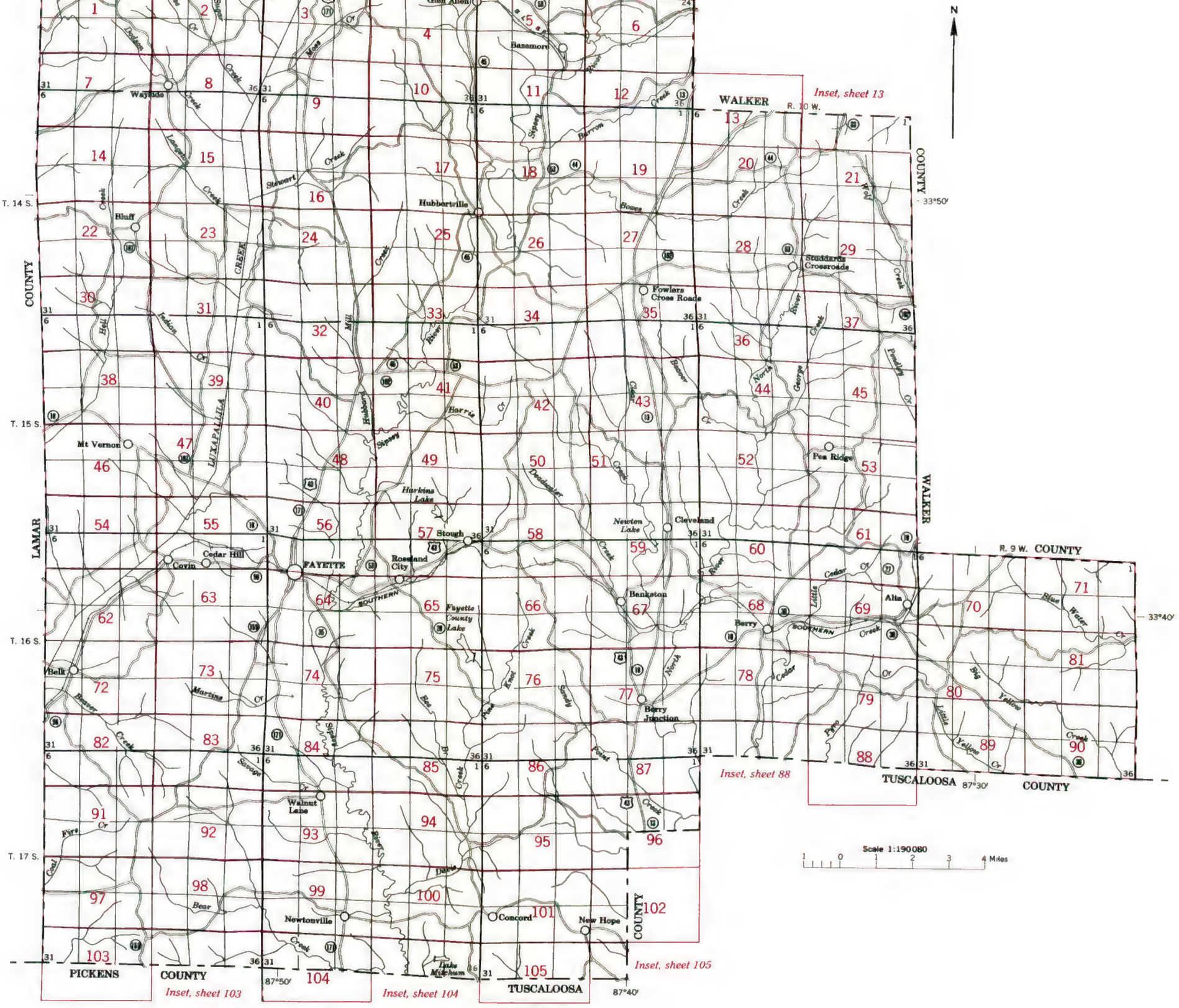

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ALABAMA DEPARTMENT OF AGRICULTURE AND INDUSTRIES
ALABAMA AGRICULTURAL EXPERIMENT STATION
GENERAL SOIL MAP
FAYETTE COUNTY, ALABAMA
SOIL ASSOCIATIONS
1 Montevallo-Enders-Townley association: Shallow to moderately deep soils over shale and sandstone
2 Ruston-Cuthbert-Shubuta association: Moderately deep and deep soils over thick beds of sandy or clayey marine sediments
3 Myatt-Stough-Mantachie association: Deep, imperfectly drained and poorly drained soils on flood plains and low stream terraces
4 Savannah-Ora association: Deep, moderately well drained soils that have a fragipan
5 Ora-Ruston-Greenville association: Moderately deep and deep soils over sandy loam or sandy clay loam marine sediments
6 Shubuta-Ora association: Moderately deep and deep, moderately well drained to well drained soils over sandy clay loam or clay marine sediments
August 1964
N
Scale 1:190080
0 1 2 3 4 Miles
MARION COUNTY
WALKER COUNTY
LAMAR COUNTY
PICKENS COUNTY
TUSCALOOSA COUNTY
R. 13 W.
R. 12 W.
R. 11 W.
R. 10 W.
R. 9 W.
T. 13 S.
T. 14 S.
T. 15 S.
T. 16 S.
T. 17 S.
33°50′
33°40′
87°50′
87°40′
87°30′
Glen Allen
Basemore
Wayside
Hubbertville
Bluff
Studdards Crossroads
Fowlers Cross Roads
Mt Vernon
Pea Ridge
Harkins Lake
Newton Lake
Cleveland
Stough
Cedar Hill
Covin
FAYETTE
Roseland City
Bankston
Alta
Berry
Fayette County Lake
Belk
Berry Junction
Walnut Lane
Newtonville
Concord
New Hope
Lake Mitchum
LUXAPALLILA CREEK
Sipsey River
North River
SOUTHERN

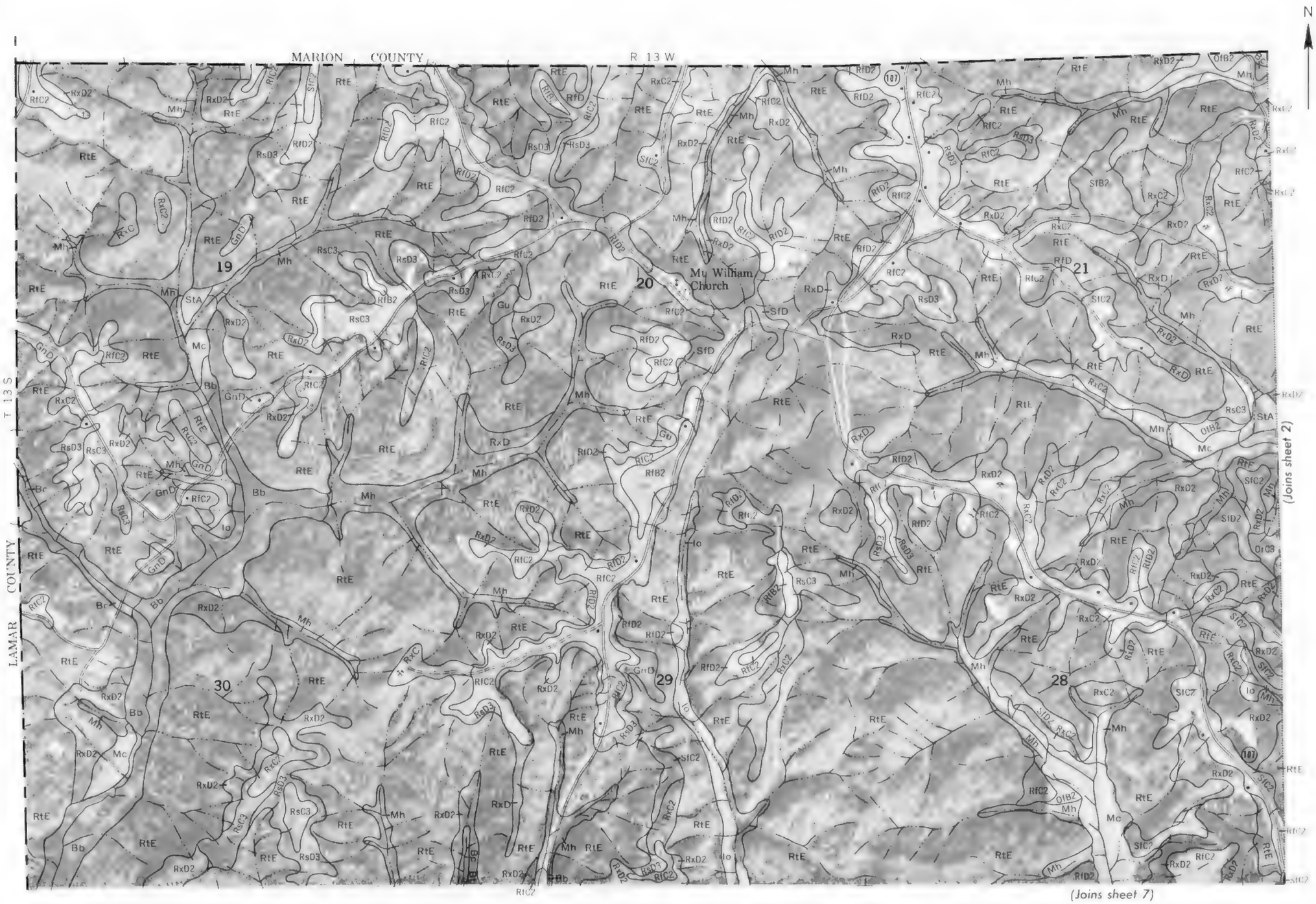
INDEX TO MAP SHEETS

FAYETTE COUNTY, ALABAMA



FAYETTE COUNTY, ALABAMA — SHEET NUMBER 1

(1)



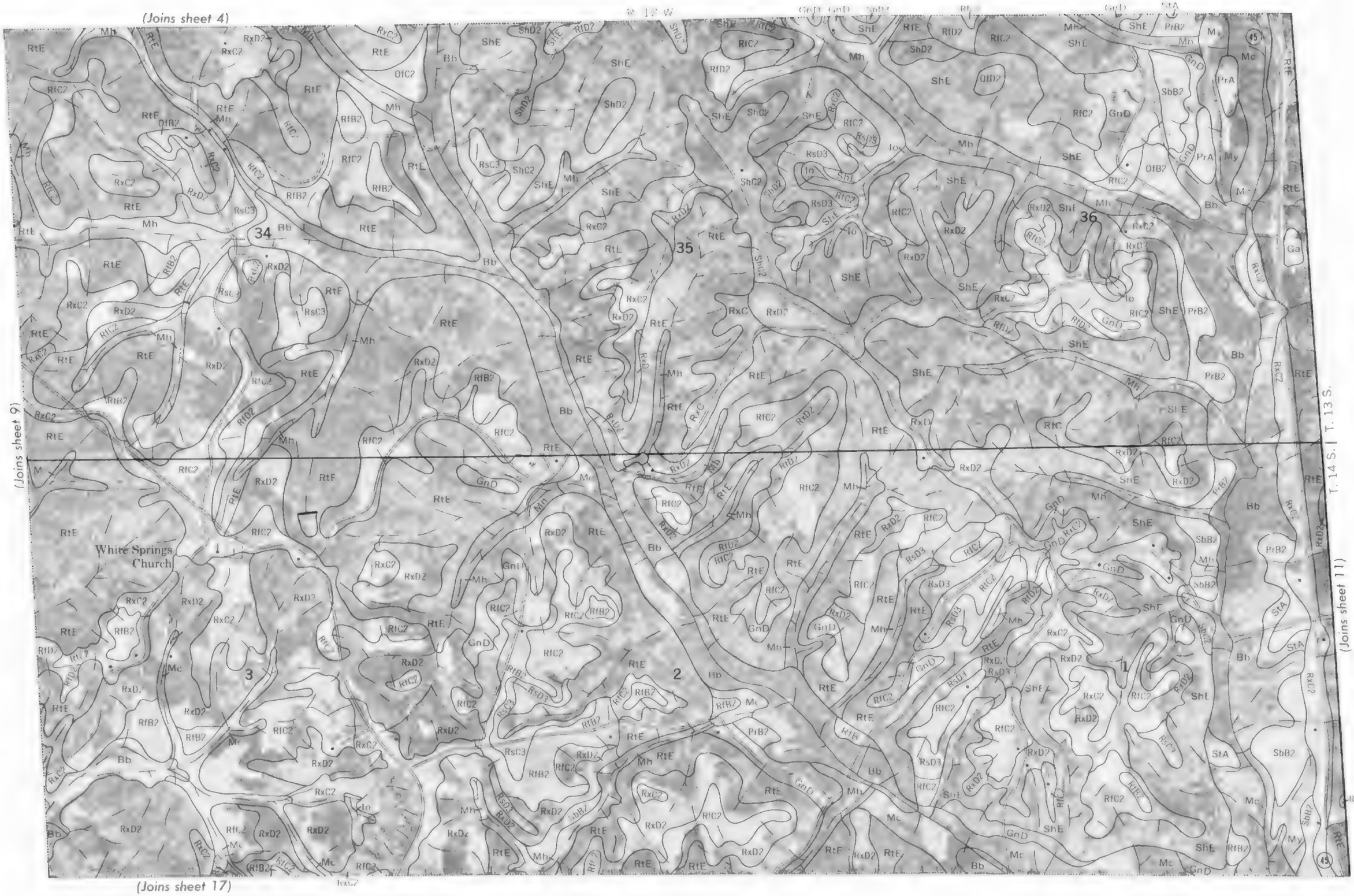
0 ½ Mile Scale 1:15 840 0 3000 Feet

This map is one of a set compiled in 1964 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, the Alabama Department of Agriculture and Industries, and the Alabama Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite

(10)

N


(Joins sheet 4)
R. 12 W.
T. 14 S.
T. 13 S.
(Joins sheet 9)
(Joins sheet 11)
(Joins sheet 17)
White Springs Church
34
35
36
3
2
1
RtE
RxC2
RxD2
RfC2
RfB2
RfD2
RsC3
RsD3
ShE
ShC2
ShD2
Mh
Bb
GnD
PrA
PrB2
SbB2
StA
Mc
My
Ga
Io
0
½ Mile
Scale 1:15,840
0
3000 Feet

100

N

R 12 W

T 17 S

(Joins sheet 94)

(Joins sheet 99)

(Joins sheet 101)

(Joins inset, sheet 104)

Liberty Grove Church

Davis Creek

SIPSEY RIVER

22 23 24 25 26 27

Mk Mc Bb StA RtE RxD2 RxC2 ShD2 ShE RxC PrA Mh lk Bc SfC2 SfD2 RfC2 RfD2 RfB2

0 ½ Mile Scale 1:15 840 0 3000 Feet

½ Mile

Scale 1:15 840

3000 Feet

N

(Joins sheet 96)

R. 11 W.

T. 17 S.

22

27

TUSCALOOSA COUNTY

(Joins sheet 101)

(Joins inset, sheet 105)

0 ½ Mile

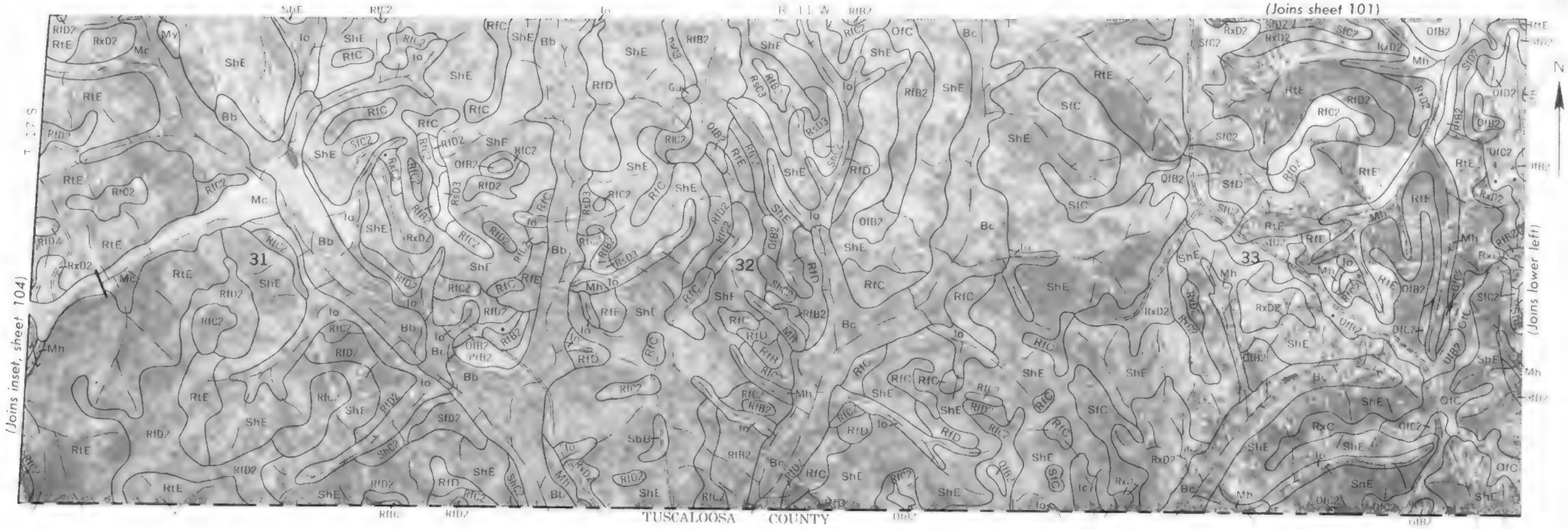
Scale 1:15 840

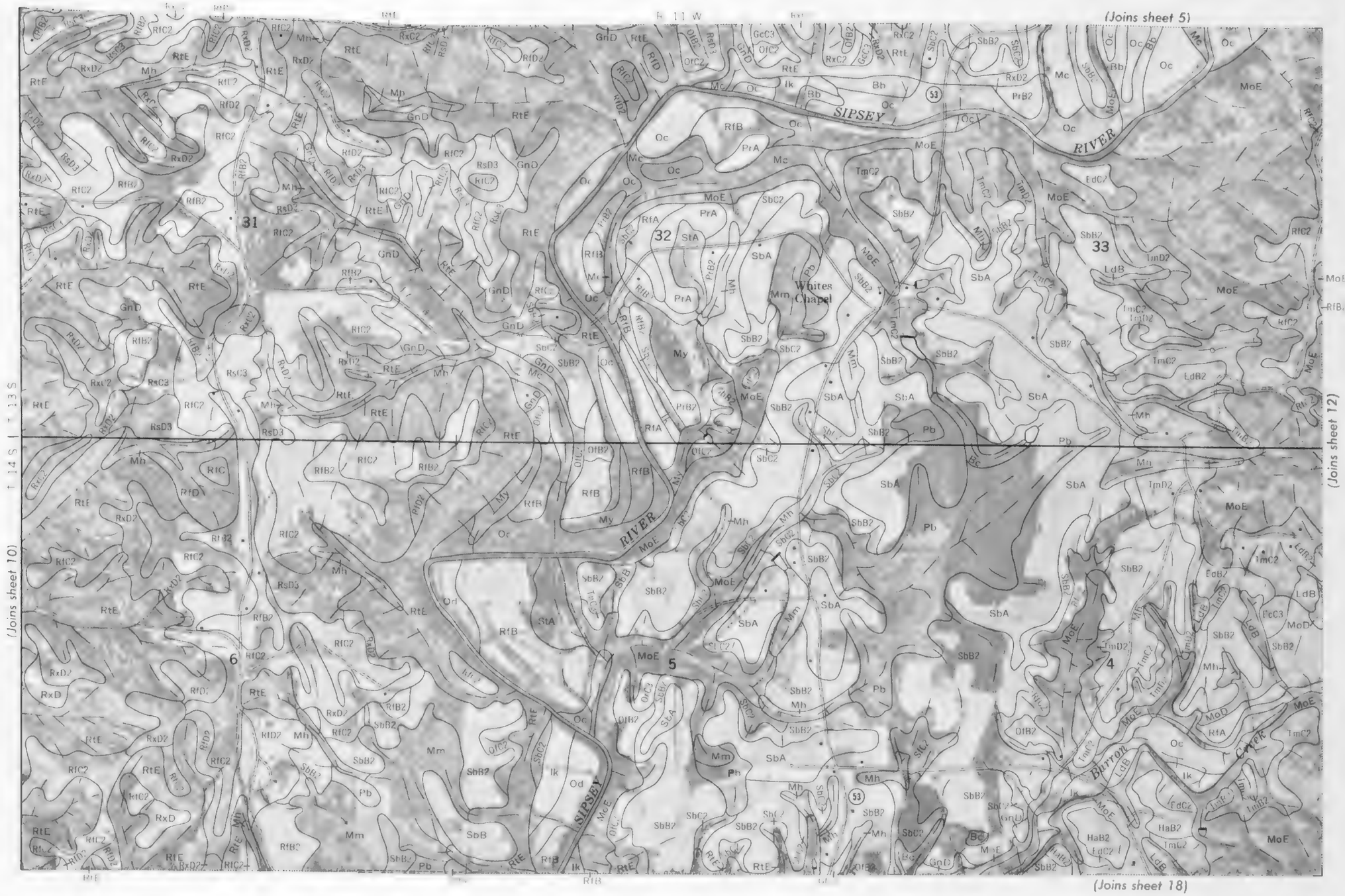
0 3000 Feet

FAYETTE COUNTY, ALABAMA — SHEET NUMBER 103

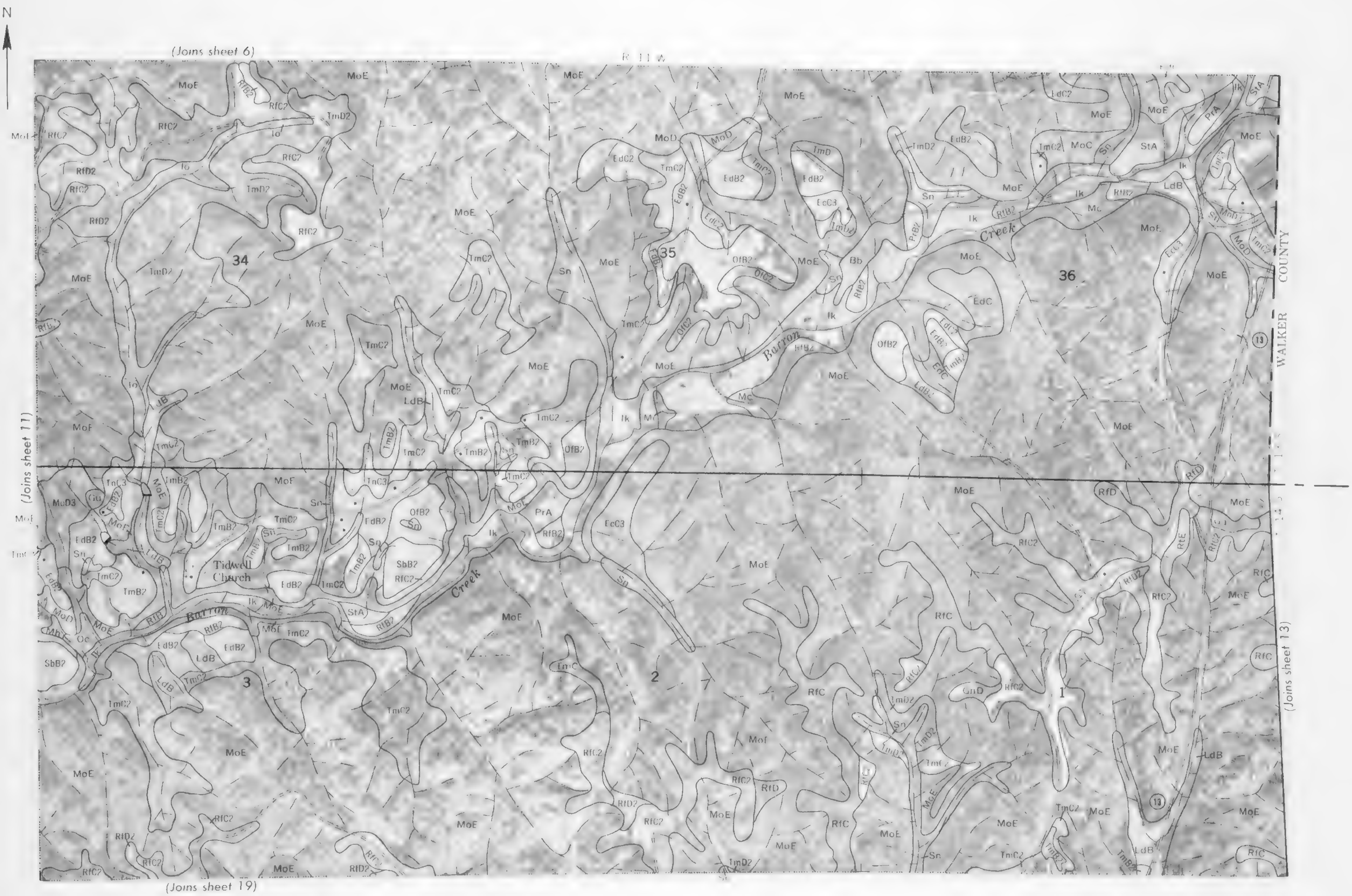
104


R. 12 W.
T. 17 S.
(Joins sheet 99)
(Joins inset, sheet 103)
(Joins lower left)
(Joins upper right)
(Joins sheet 105)
(Joins sheet 100)
31
32
33
34
35
36
Bear Creek
Freemans Lake
Creek
SIPSEY RIVER
Lake Mitchum
TUSCALOOSA COUNTY
Scale 1:15 840
3000 Feet

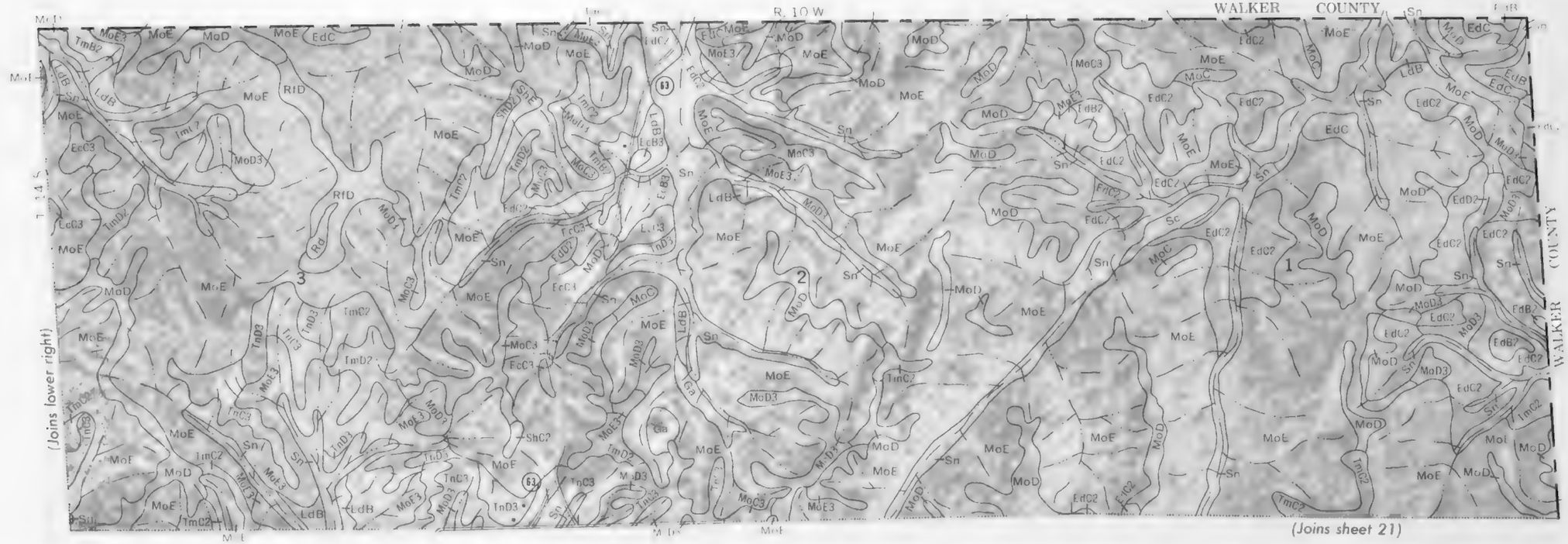


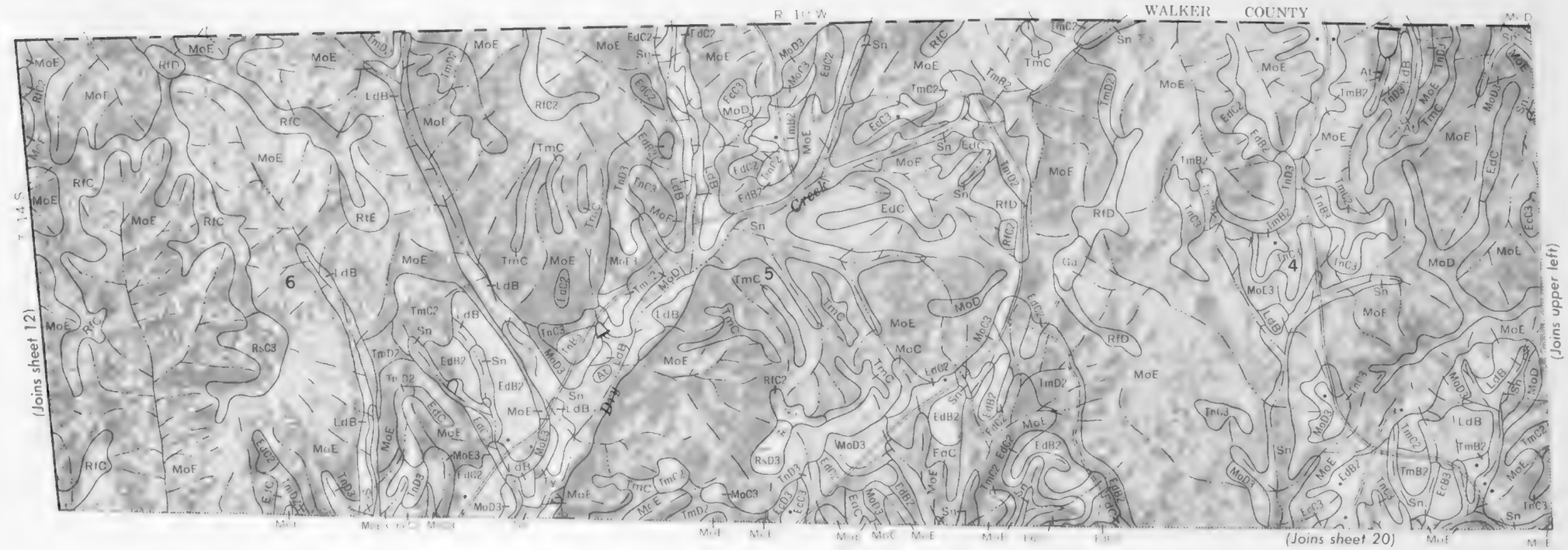


(12)



½ Mile Scale 1:15 840 3000 Feet



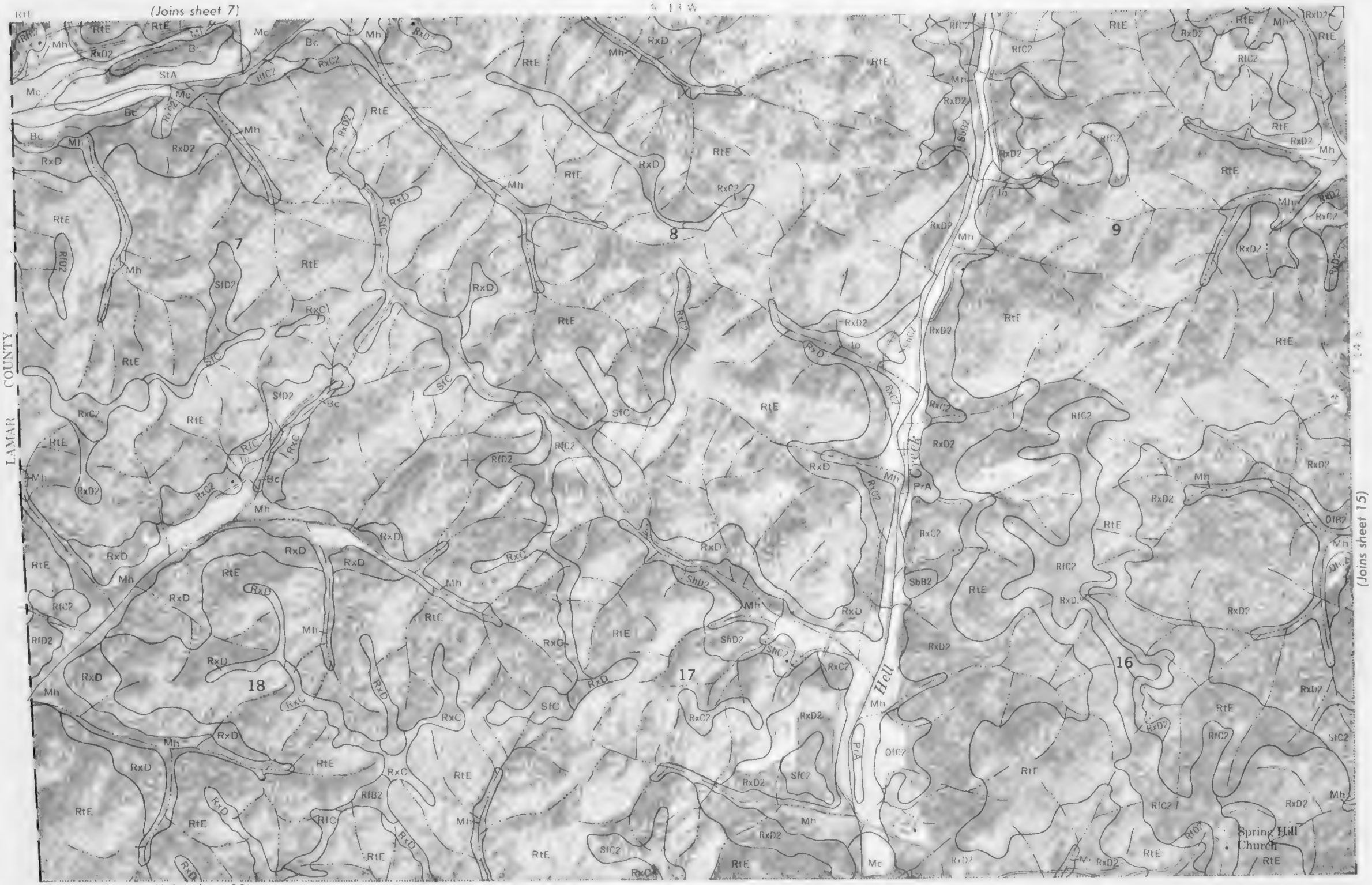


Scale 1:15 840

3000 Feet

(14)

N



0 ½ Mile Scale 1:15 840 0 3000 Feet

16


N
(Joins sheet 9)
R 14 W
(Joins sheet 15)
(Joins sheet 17)
(Joins sheet 24)
Stewart Creek
Stewart Creek
Scale 1:15 840
3000 F

N

½ Mile

Scale 1:15,840

Printed from digital data compiled in 1964 as part of the Alabama Department of Agriculture and Industry Range township and section corners shown on this map are indicated

(18)

½ Mile Scale 1:15 840 0 3000 Feet

Scale 1:15,840

FAYETTE COUNTY, ALABAMA — SHEET NUMBER 2

(2)

N

MARION COUNTY

R 13 W

T 13 S

Oak Grove Church

Salem Church

Coffee Creek

Sugar Creek

22 23 24 25 26 27

(Joins sheet 1)

(Joins sheet 3)

(Joins sheet 8)

½ Mile Scale 1:15 840 0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet

N

(Joins sheet 14)

(Joins sheet 23)

(Joins sheet 30)

LAMAR COUNTY

19 20 21 30 29 28

Bluff

Hell

Creek

0 ½ Mile Scale 1:15 840 3000 Feet

Scale 1:15 840

0 ½ Mile

0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet

Set compiled in 1964 by the Alabama Department of Agriculture and Range, township, and section corners shown on this map are indefinite

N

R 11 W.

T 14 S

(Joins sheet 18)

(Joins sheet 25)

(Joins sheet 27)

(Joins sheet 34)

BOXES CREEK

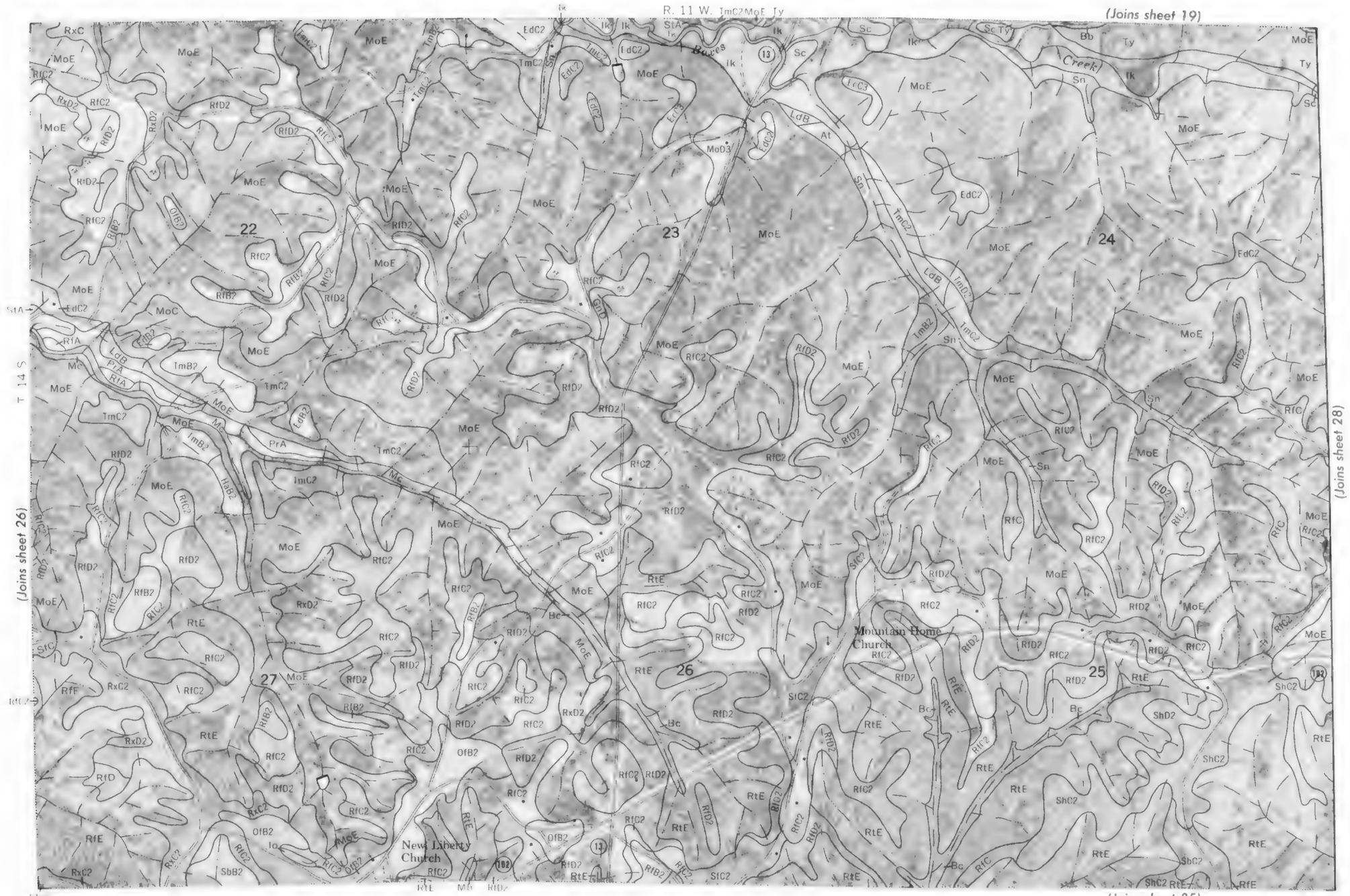
SIPSEY RIVER

Macedonia Church

New River Church

19 20 21 28 29 30

0 ½ Mile Scale 1:15 840 0 3000 Feet



N

R 10 W

T. 14 S.

(Joins sheet 20)

(Joins sheet 27)

(Joins sheet 29)

(Joins sheet 36)

Studdards Crossroads

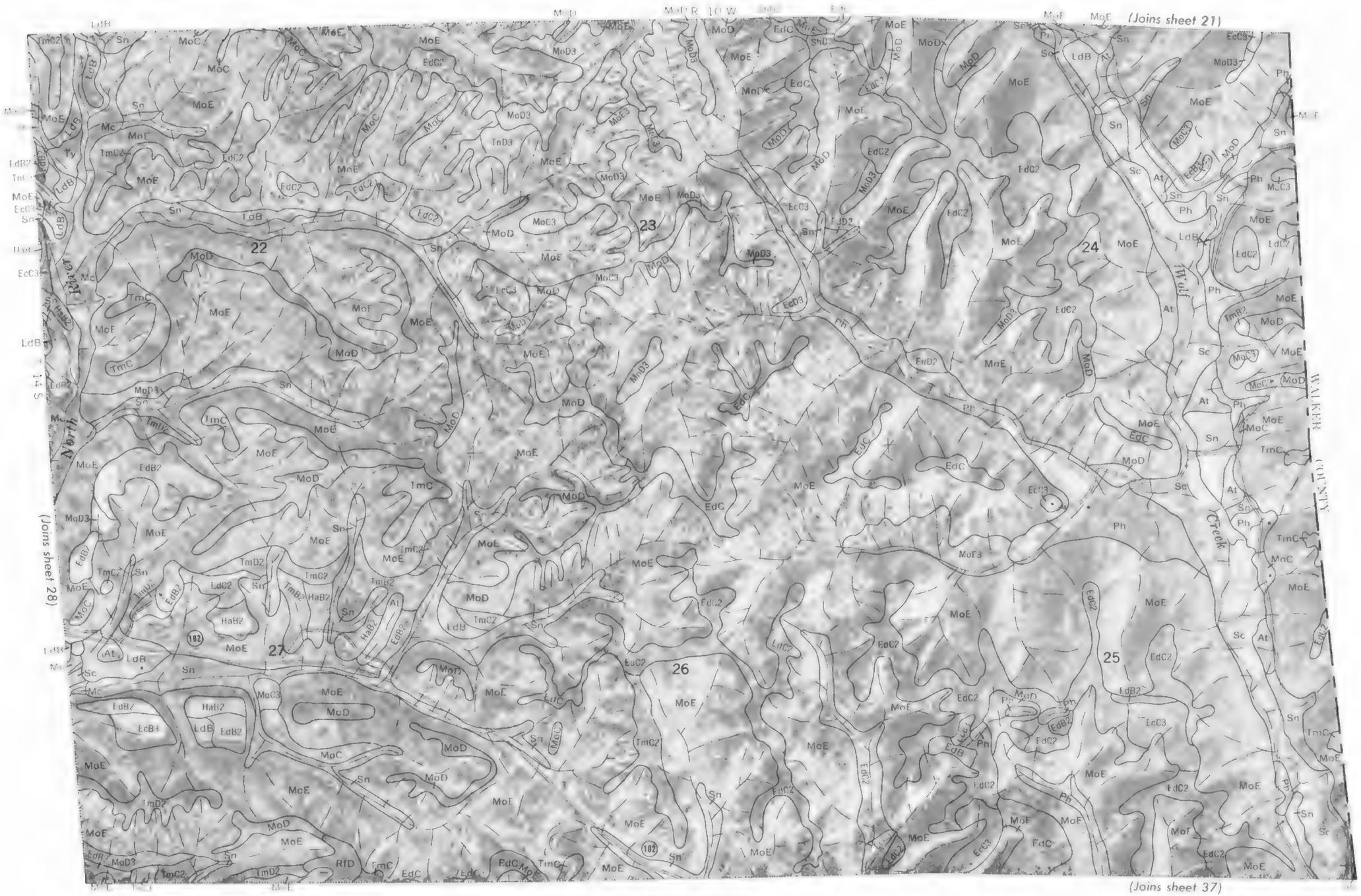
Bear Creek

Tanyard Creek

North River

19 20 21 30 29 28

0 ½ Mile Scale 1:15 840 0 3000 Feet



0 ½ Mile Scale 1:15 840 0 3000 Feet

FAYETTE COUNTY, ALABAMA — SHEET NUMBER 3

3

N

R. 12 W.

MARION COUNTY

Harmony Grove Church

CREEK

LUXAPALILA

Moss Creek

19 20 21 30 29 28

(Joins sheet 2)

(Joins sheet 4)

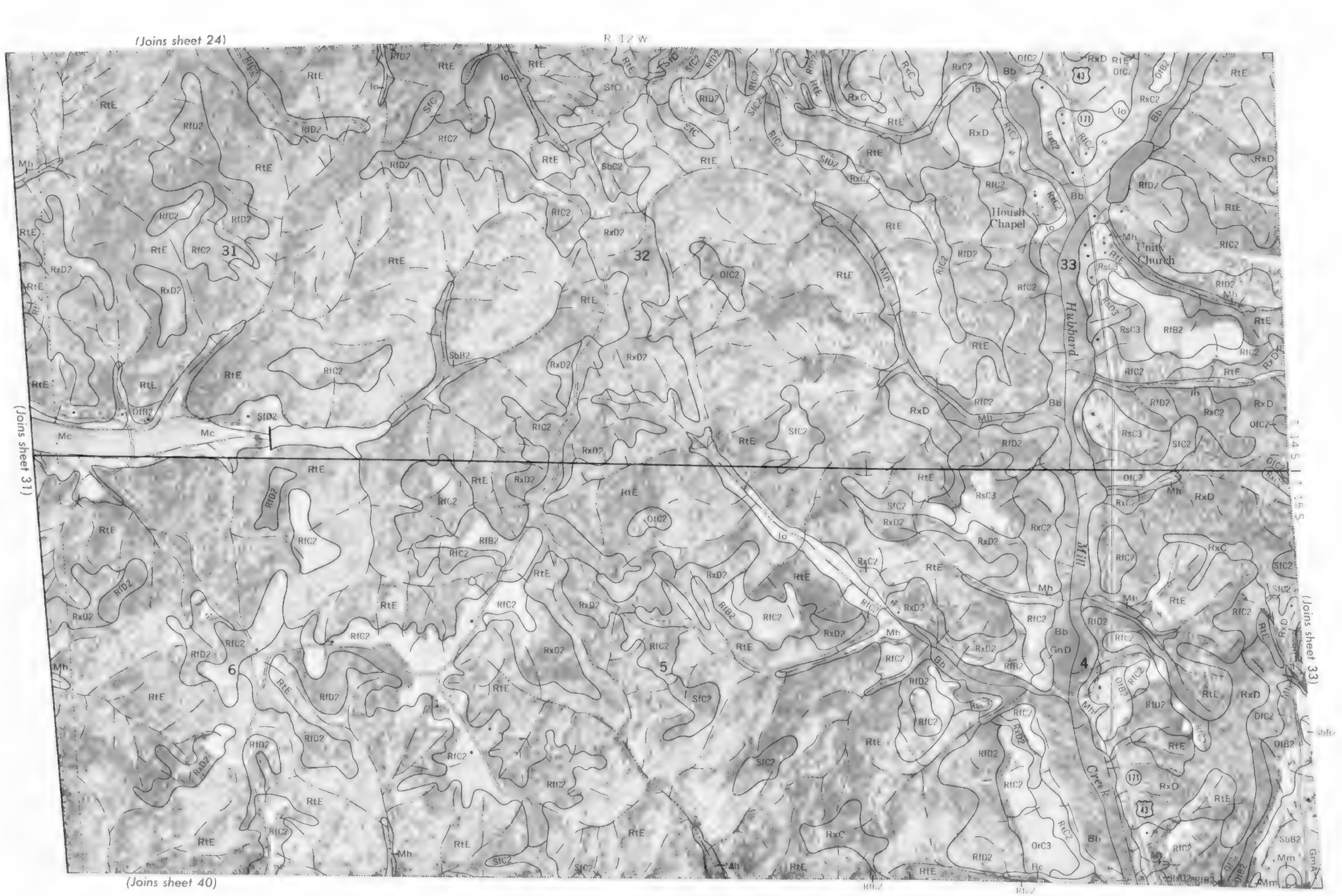
(Joins sheet 9)

0 ½ Mile Scale 1:15 840 0 3000 Feet

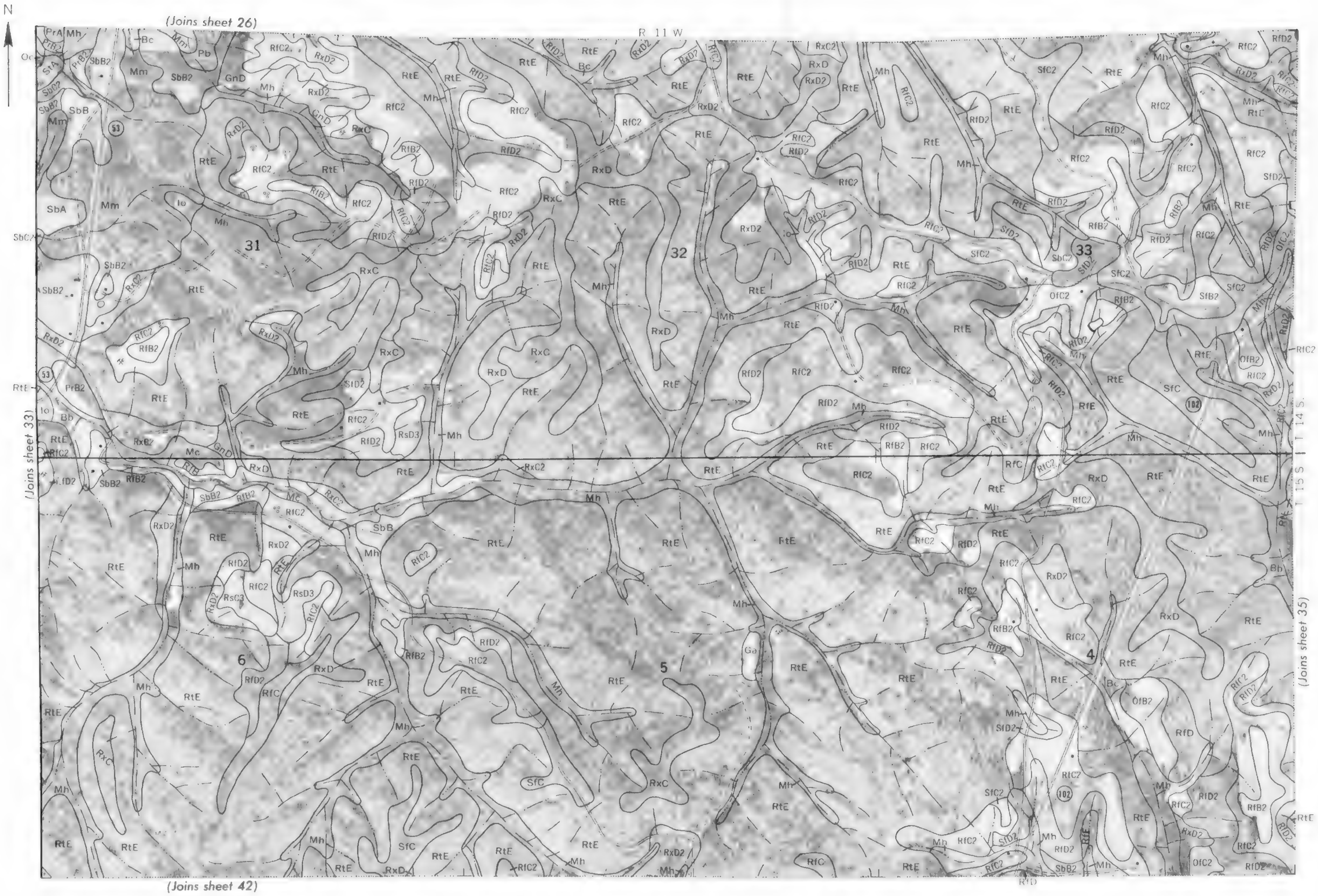
This map is one of a set compiled for the United States Department of Agriculture and the Alabama Department of Agriculture. Boundaries shown on this map are approximate.

0 ½ Mile Scale 1:15 840 0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet


N
(Joins sheet 24)
R 12 W
T 14 S
(Joins sheet 31)
(Joins sheet 33)
(Joins sheet 40)
31
32
33
6
5
4
Housh Chapel
Unity Church
Hubbard Mill Creek
RtE
RfD2
RfC2
RxD2
SfC
SfD2
SfC2
SbC2
SbB2
OfC2
RfB2
RxD
RxC2
RxC
Bb
Mh
Mc
Io
RsC3
RsD3
OfB2
SfD2
OrC3
GnD
GmA
Mm
43
171
½ Mile
Scale 1:15 840
3000 Feet


N
(Joins sheet 25)
(Joins sheet 32)
(Joins sheet 34)
(Joins sheet 41)
RIVER
SIPSEY
34
35
36
3
2
1
Scale 1:15 840



0 ½ Mile Scale 1:15 840 0 3000 Feet

0 ½ Mile Scale 1:15 840 0 4000 Feet

N

R. 10 W.

(Joins sheet 28)

(Joins sheet 35)

(Joins sheet 44)

(Joins sheet 37)

T. 14 S.

T. 15 S.

31 32 33 6 5 4

Toyard Creek

River

North

Scale 1:15 840

0 ½ Mile

0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet

38

N

0 ½ Mile Scale 1:15 840 0 3000 Feet


(Joins sheet 31)
(Joins sheet 40)
(Joins sheet 38)
(Joins sheet 47)
N
Indian Creek
LUXAPALLILA CREEK
10
11
12
13
14
15
0
½ Mile
Scale 1:15 840
3000 Feet

FAYETTE COUNTY, ALABAMA — SHEET NUMBER 4

(4)

½ Mile Scale 1:15 840 0 3000 Feet

N

(Joins sheet 32)

(Joins sheet 39)

(Joins sheet 41)

(Joins sheet 48)

Hubbard Creek

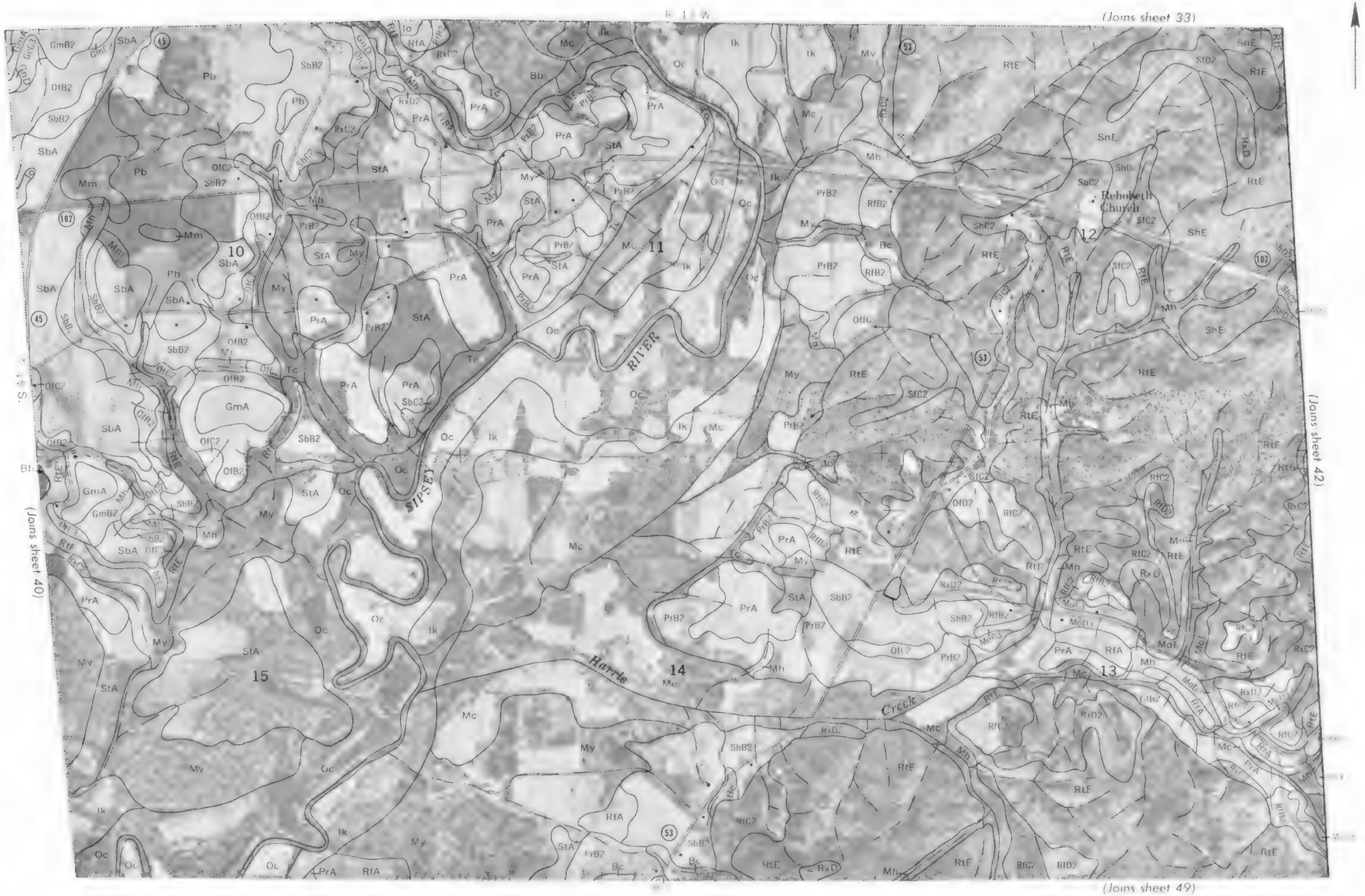
Hopewell Church

Bethlehem Church

0 ½ Mile

Scale 1:15 840

0 3000 Feet


N
R 1 W
(Joins sheet 33)
(Joins sheet 40)
(Joins sheet 42)
(Joins sheet 49)
RIVER
SIPSEY
Harris
Creek
Rehobeth Church
10
11
12
13
14
15
Scale 1:15 840
½ Mile
3000 Feet

(42)

N

R 11 W

T. 15 S.

(Joins sheet 34)

(Joins sheet 41)

(Joins sheet 43)

(Joins sheet 50)

Boles Creek

Harris Creek

Scale 1:15 840

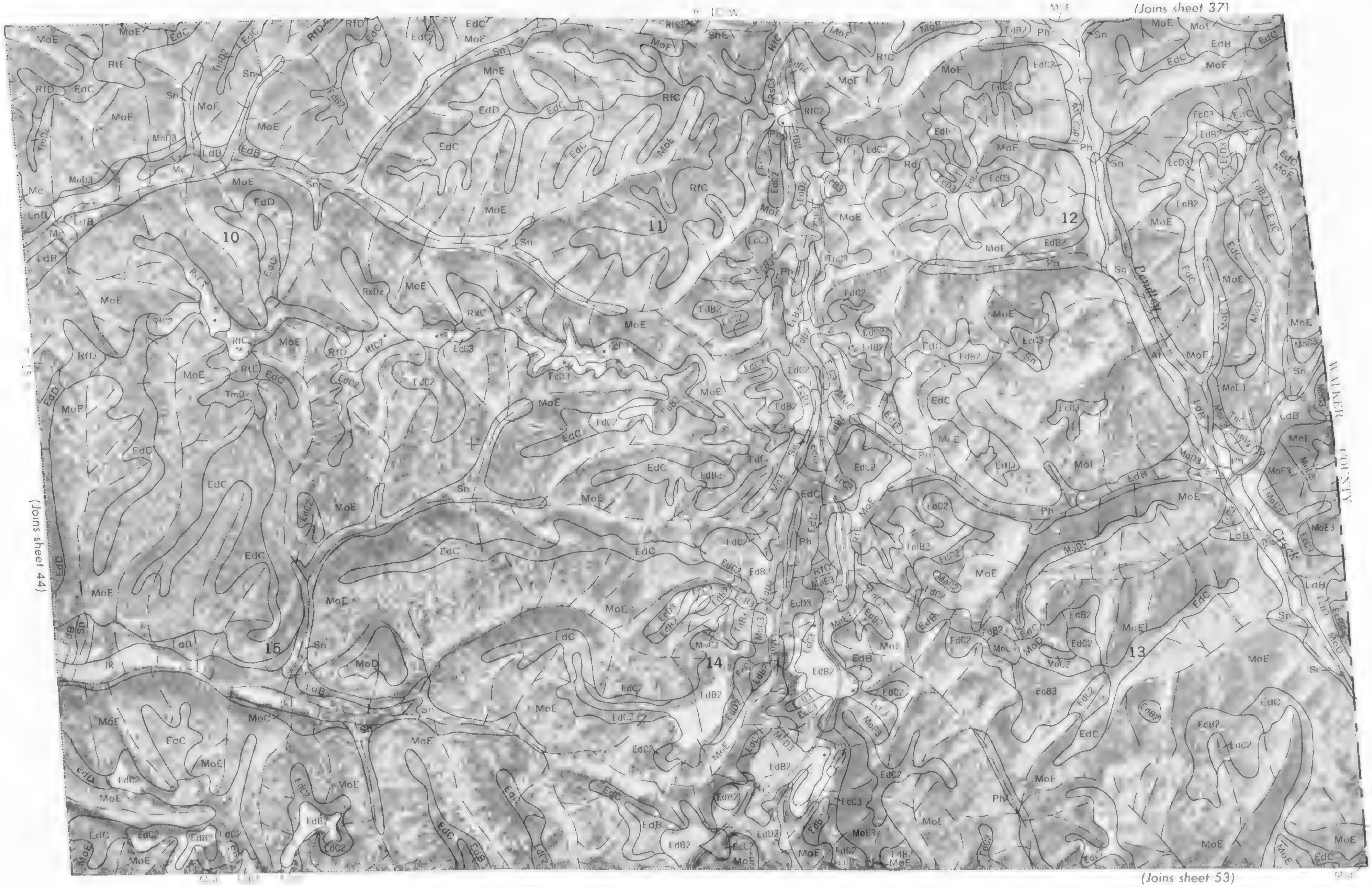
0 ½ Mile

0 3000 Feet

N


(Joins sheet 36)
R 10 W
T 15 S
(Joins sheet 43)
(Joins sheet 45)
(Joins sheet 52)
North Beaver Creek
Creek
George
River
7
8
9
16
17
18
MoE
RfC
RfE
RfD
RxD
RxC
RxC2
RfC2
RfD2
EdC
EdC2
EdB2
EdC3
MoC3
MoD
TmC
TmC2
TmB2
Ty
Sc
Sn
Mh
LdB
LdC2
Mc
Ik
Bb
StA
StD
RtB
RtE
PrA
Ph
0
½ Mile
Scale 1:15 840
0
3000 Feet

N



½ Mile Scale 1:15 840 0 3000 Feet

½ Mile Scale 1:15 840 0 3000 Feet

½ Mile Scale 1:15 840 0 4000 Feet

48

N

½ Mile Scale 1:15 840 0 3000 Feet

0 ½ Mile Scale 1:15 840 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet

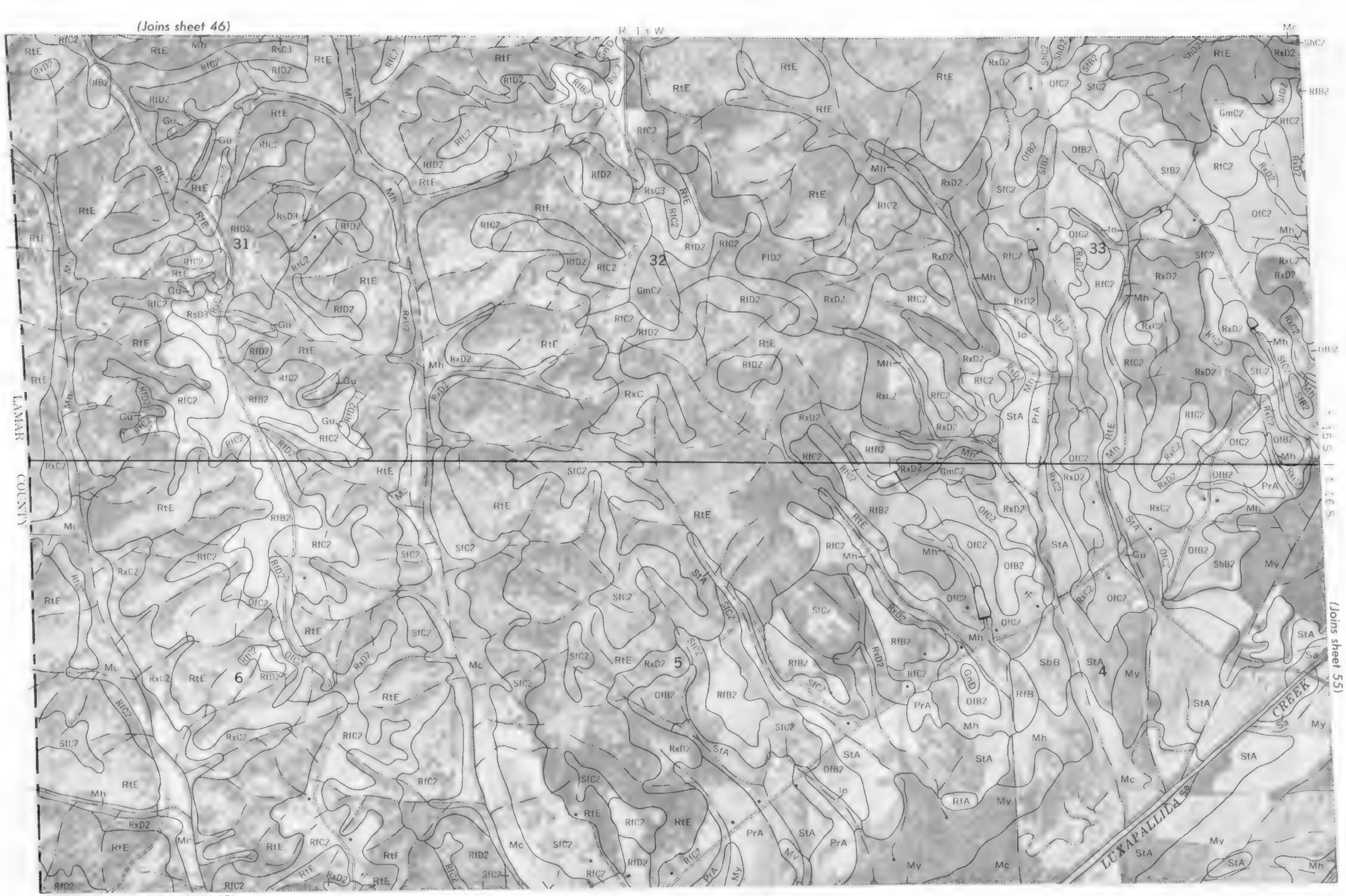

N
(Joins sheet 42)
R 11 W
T 15 S
(Joins sheet 49)
(Joins sheet 51)
(Joins sheet 58)
19
20
21
30
29
28
Bethel Church
Riney Grove Church
Boles Creek
Deadwater Creek
Butler Creek
Mh
RtE
RxD
RxD2
RfC2
SfC
SfD
SbB
SbC2
ShE
ShD2
MoE
MoD
EdC
EdC2
TmD2
TmC2
OfC2
OfB2
SfC2
SfD2
RfD2
Bc
Mc
Io
Ik
Bb
Oc
StA
0
½ Mile
Scale 1:15 840
0
3000 Feet


N
R. 11 W.
(Joins sheet 43)
(Joins sheet 50)
(Joins sheet 52)
(Joins sheet 59)
Boles
Clear Creek
22
23
24
25
26
27
MoE
RfD2
RfC2
RtE
TmD2
TmC2
LdB
Bb
EdC
EdC2
RxD
RxC2
HaB2
EdB2
TmB2
MoC
MoD
Scale 1:15 840
½ Mile
3000 Feet

(52)


N
R 10 W
(Joins sheet 44)
(Joins sheet 51)
(Joins sheet 53)
(Joins sheet 60)
Beaver
Oc Creek
North
George Cr
River
North
River
JENKINS CEMETERY
19
20
21
30
29
28
MoE
TmC2
RtE
RfD2
RxD2
RfC2
EdB2
EdC2
LdB
StA
PrA
Oc
Mc
Ty
Sc
Ik
Sn
HaB2
TmB2
TmD2
MoC
MoD
MoD3
TnC3
RfC
RfD
RxD
EdD3
0
½ Mile
Scale 1:15 840
3000 Feet


R. 10 W.
(Joins sheet 45)
Pea Ridge
22
23
24
27
26
25
(Joins sheet 52)
(Joins sheet 61)
WALKER COUNTY
N
0
½ Mile
Scale 1:15 840
0
3000 Feet



½ Mile Scale 1:15 840 0 3000 Feet

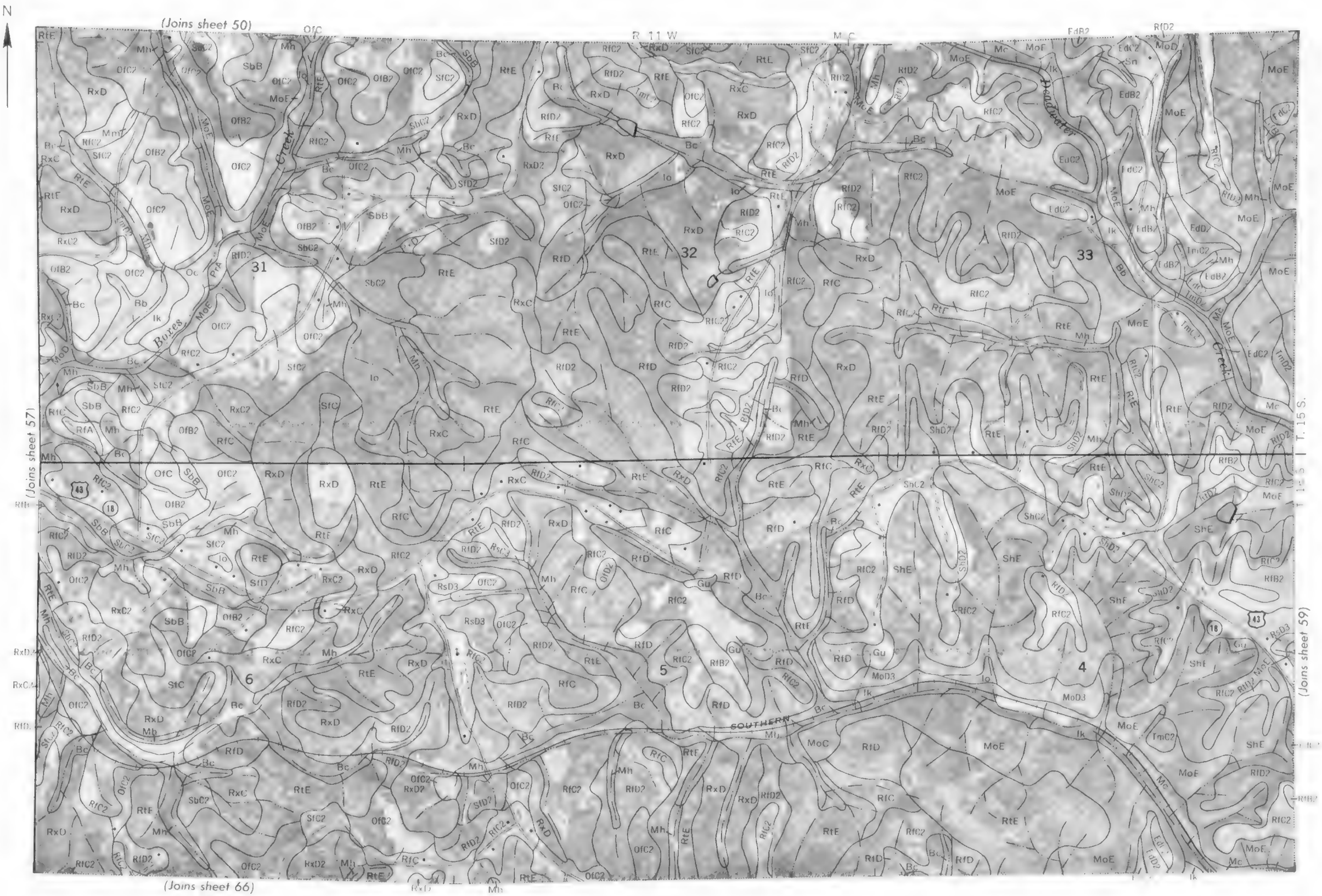
56

N

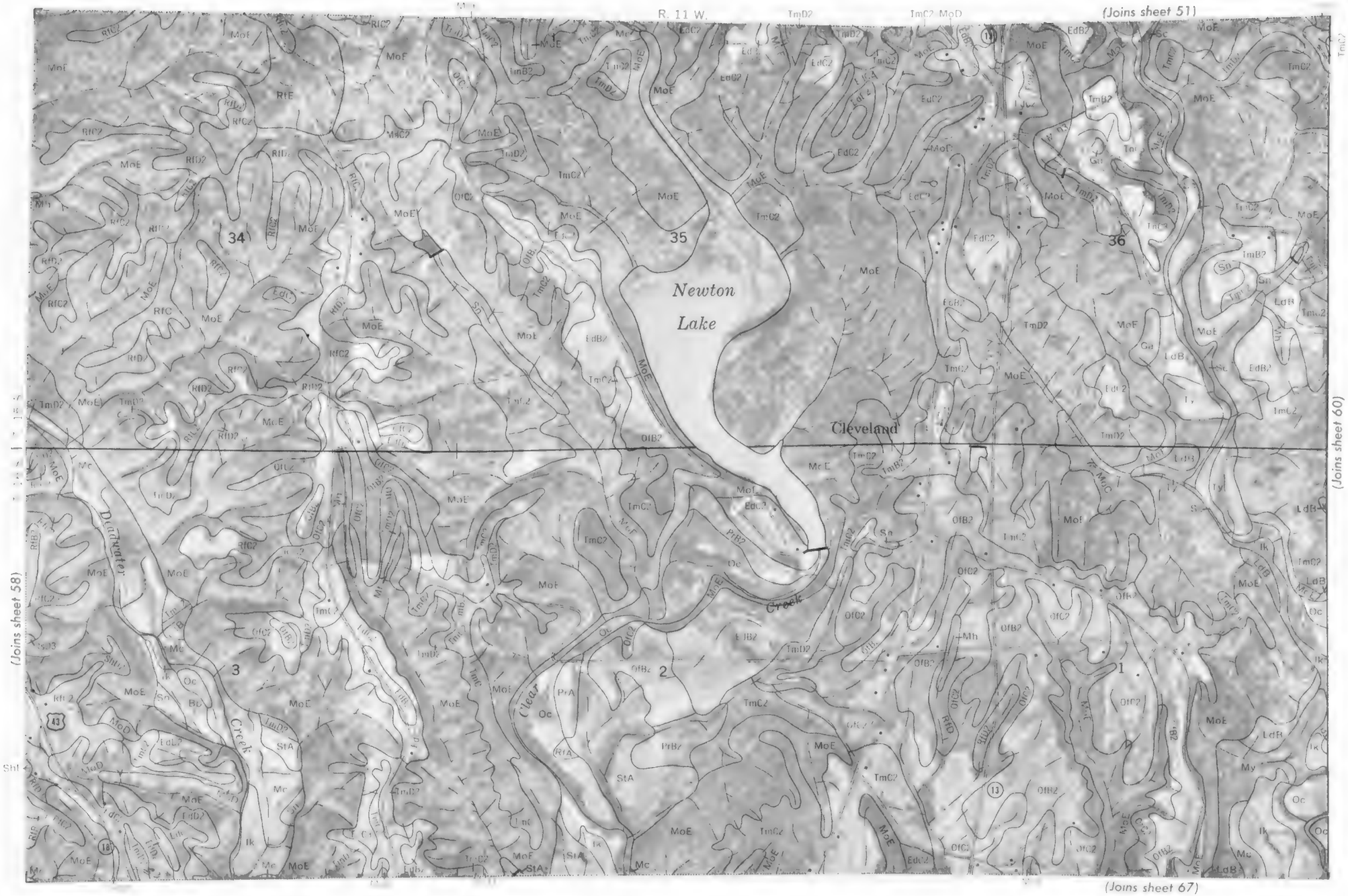
0 ½ Mile Scale 1:15 840 0 3000 Feet

This map was compiled from aerial photographs taken in 1964 as part of a soil survey by the Soil Conservation Service and the Alabama Department of Agriculture and Industries, and the Alabama Agricultural Experiment Station. Soil boundaries and section corners shown on this map are undefined lines.

Range, township, and section corners shown on this map are undefined lines.



0 ½ Mile Scale 1:15 840 0 3000 Feet



0 ½ Mile Scale 1:15 840 0 3000 Feet

½ Mile Scale 1:15 840 0 3000 Feet

N

(Joins sheet 52)

R 10 W

T 15 S

T 16 S

(Joins sheet 59)

(Joins sheet 61)

(Joins sheet 68)

31 32 33 6 5 4

NORTH RIVER

0 ½ Mile Scale 1:15 840 0 3000 Feet


R. 10 W.
(Joins sheet 53)
34
35
36
Bethabara Church
Bevans Chapel
Pendleys Chapel
Little Cedar Creek
SOUTHERN RAILWAY
(Joins sheet 60)
(Joins sheet 70)
(Joins sheet 69)
N
Scale 1:15 840
3000 Feet

62

N

(Joins sheet 54)

R 13 W

T 16 S.

LAMAR COUNTY

CREEK

SOUTHERN

LUXAPALLILA

New Friendship School

7 8 9 16 17 18

(Joins sheet 63)

(Joins sheet 72)

½ Mile

Scale 1:15 840

3000 Feet

½ M.lc Scale 1:15 840 3000 Feet

64

N

R 12 W

(Joins sheet 56)

FAYETTE

(Joins sheet 63)

(Joins sheet 74)

(Joins sheet 65)

T 19 S

SOUTHERN

SIPSEY

Boxes Creek

RIVER

7 8 9 16 17 18

0 ½ Mile Scale 1:15 840 0 3000 Feet

FAYETTE COUNTY, ALABAMA — SHEET NUMBER 65

N

R. 12 W

(Joins sheet 57)

(Joins sheet 66)

(Joins sheet 64)

(Joins sheet 75)

Rossland City

Boggs Creek

SOUTHERN

Fayette County Lake

10 11 12 13 14 15

Scale 1:15 840

0 3000 F...

66

N

Scale 1:15,840

½ Mile

3000 Feet


R 11 W
(Joins sheet 59)
N
(Joins sheet 66)
(Joins sheet 68)
(Joins sheet 77)
Bankston
Deadwater
Creek
SOUTHERN
NORTH
RIVER
10
11
12
13
14
15
MoE
StA
TmC2
TmD2
EdC2
PrA
Mc
Ik
Oc
My
LdB
OfC2
OfB2
½ Mile
Scale 1:15 840
0
3000 Feet


N
(Joins sheet 60)
R 10 W
(Joins sheet 67)
(Joins sheet 69)
(Joins sheet 78)
NORTH RIVER
SOUTHERN
Berry
Creek
7
8
9
18
17
16
30
½ Mile
Scale 1:15 840
0
3000 Feet

N

R 10 W

(Joins sheet 61)

(Joins sheet 70)

(Joins sheet 68)

(Joins sheet 80)

(Joins sheet 79)

Alta

Little Cedar Creek

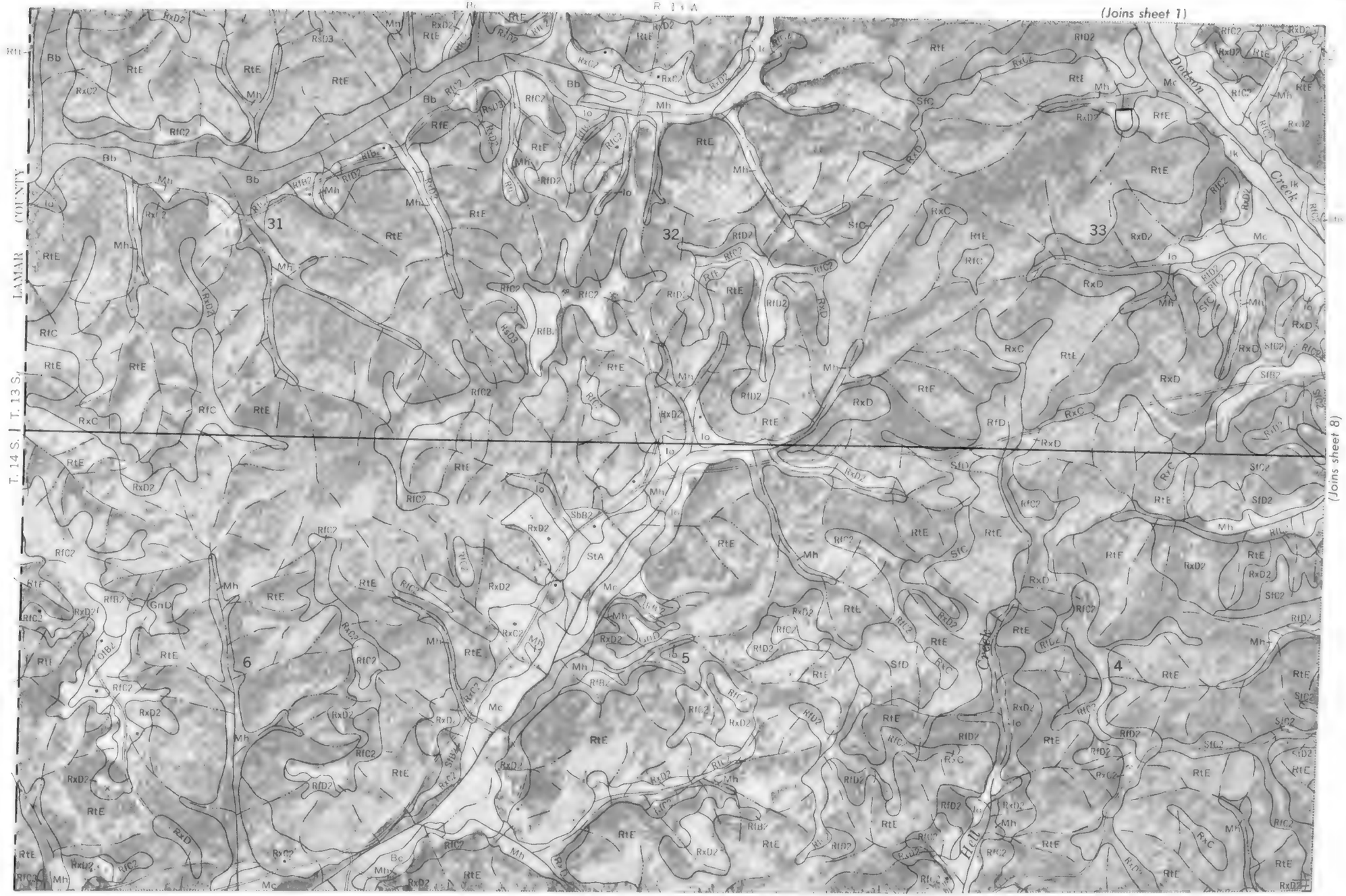
Cedar Creek

SOUTHERN

10 11 12 13 14 15

0 ½ Mile Scale 1:15 840 0 3000 Feet

FAYETTE COUNTY, ALABAMA — SHEET NUMBER 7



½ Mile Scale 1:15 840 3000 Feet

N

WALKER COUNTY

R 9 W

T 16 S

Gibson Hill Church

Salem Church

Water Creek

Blue

(Joins sheet 69)

(Joins sheet 71)

(Joins sheet 80)

Scale 1:15 840

½ Mile

3000 Feet

Scale 1:15 840

0 3000 Feet

72

N

(Joins sheet 62)

(Joins sheet 73)

(Joins sheet 82)

LAMAR COUNTY

T. 16 S.

Belk

LUXAPALILLA CREEK

Beaver Creek

SOUTHERN

19 20 21 28 29 30

0 ½ Mile Scale 1:15 840 0 3000 Feet

N

This map is one of a set compiled in 1964 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Alabama Department of Agriculture and Industries and the Alabama Agricultural Experiment Station.

Land division corners shown on this map are indefinite.

0 ½ Mile Scale 1:15 840 0 3000 Feet


N
(Joins sheet 64)
StA R 12 W
T 16 S
(Joins sheet 73)
(Joins sheet 75)
(Joins sheet 84)
19
20
21
29
30
28
Creek
Martins
RIVER
SIPSEY
Macedonia Church
Gumbud
Creek
RtE
Mk
My
Mc
StA
Ik
Oc
PrA
RfA
RfB2
RfC2
RxD2
Mh
Bb
RsC3
RsD3
StD2
RtC2
RtD2
OfB2
OfC2
SbB2
0
½ Mile
Scale 1:15 840
0
3000 Feet

0 ½ Mile Scale 1:15 840 0 4000 Feet

N

R 11 W

T. 16 S

Rsp3 (Joins sheet 66)

(Joins sheet 75)

(Joins sheet 77)

(Joins sheet 86)

Creek

Knot

Sandy

Point

Creek

19 20 21 30 29 28 26 17

0 ½ Mile

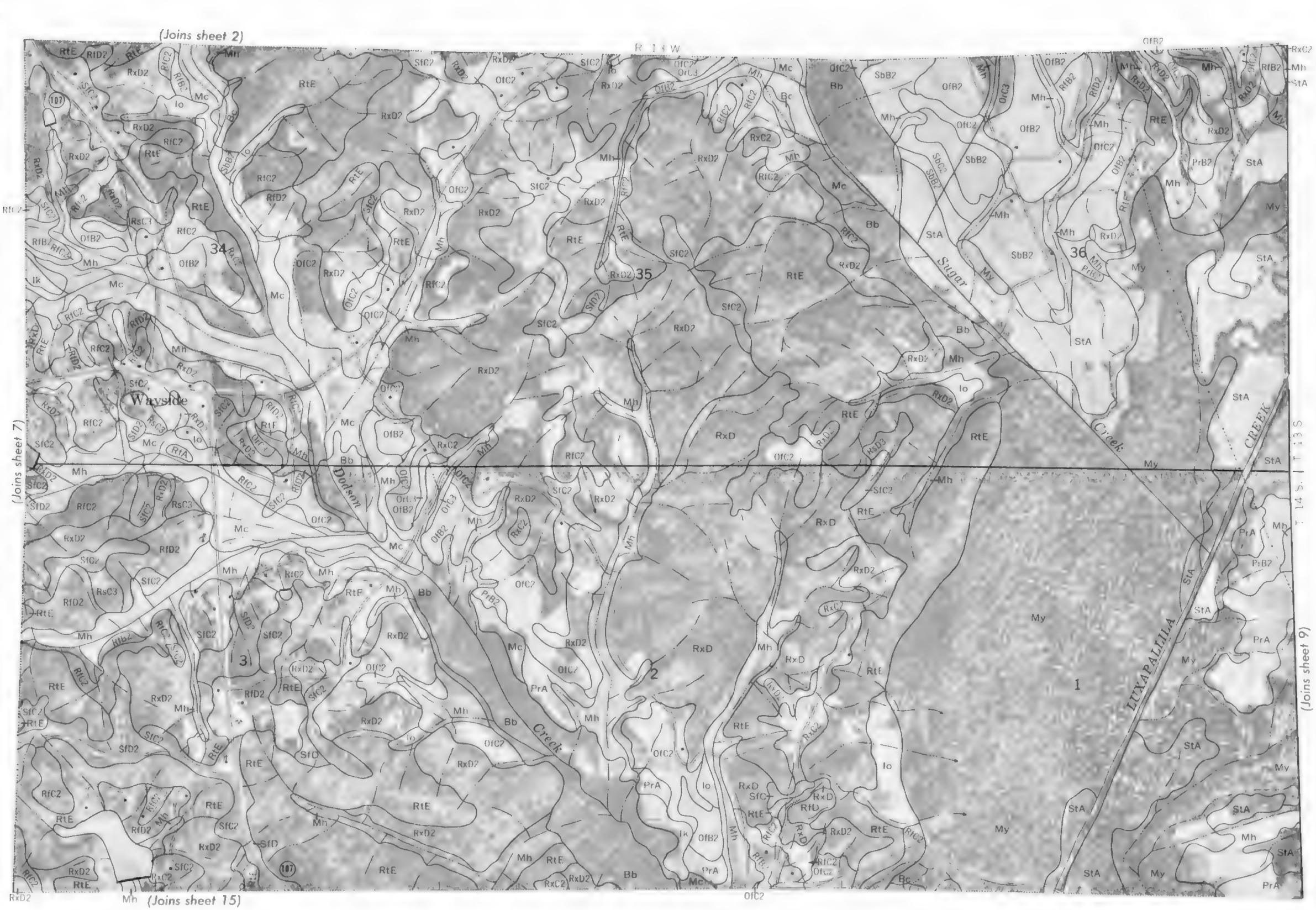
Scale 1:15 840

0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet


N
(Joins sheet 68)
(Joins sheet 77)
(Joins sheet 79)
MoC3 MoD3 (Joins inset, sheet 88)
19
20
21
30
29
28
Cedar Creek
Cedar Creek
Flat Creek
Scale 1 15 840
0
3000 Feet

½ Mile 0 Scale 1:15 840 3000 Feet



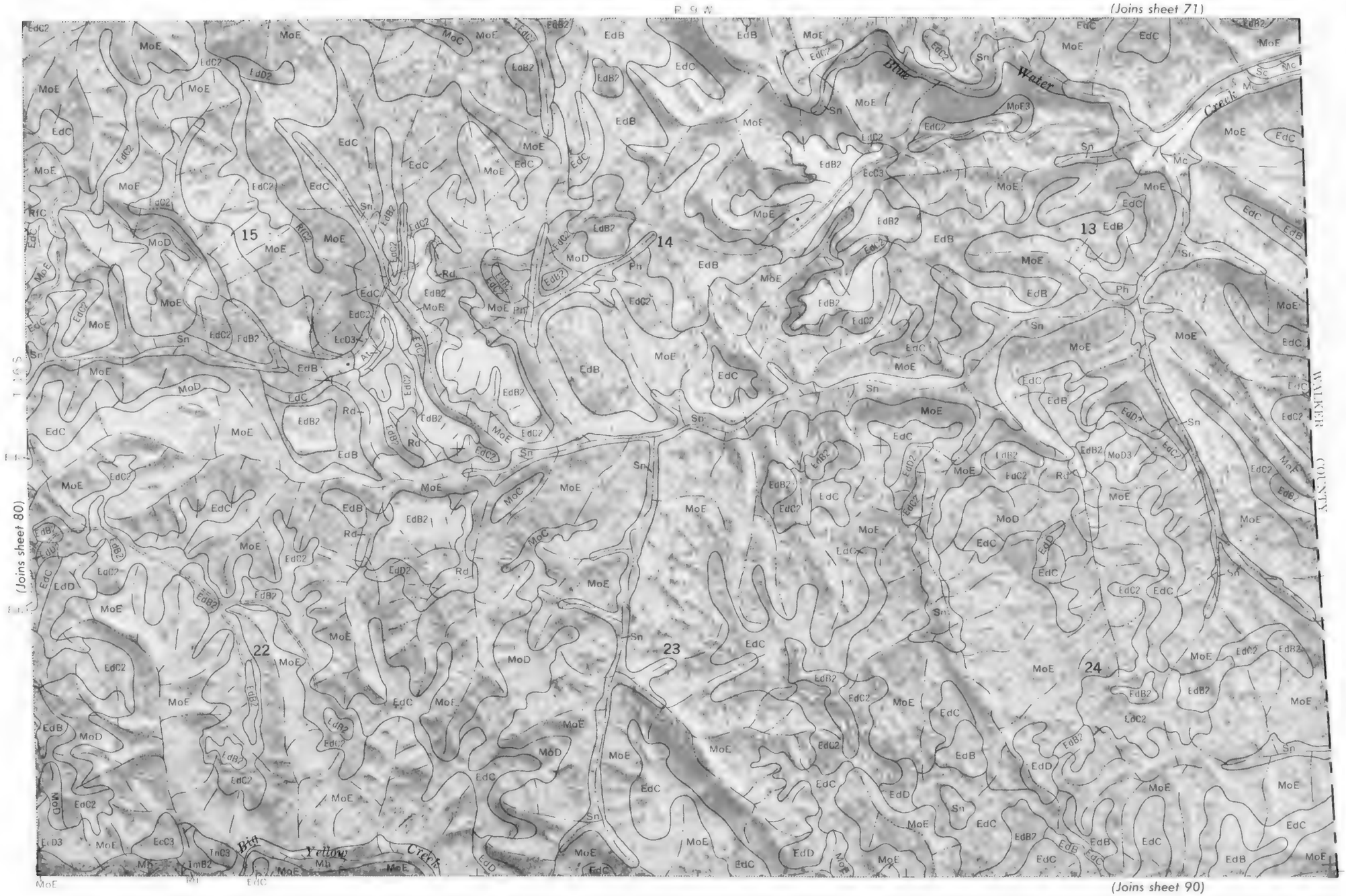
0 ½ Mile Scale 1:15 840 0 3000 Feet

FAYETTE COUNTY, ALABAMA — SHEET NUMBER 80

(80)

N

0 ½ Mile Scale 1:15 840 0 3000 Feet



Scale 1 15 840

Mile

3000 Feet


N
(Joins sheet 72)
Harmony Church
Beaver Creek
31
32
33
6
5
4
(Joins sheet 83)
(Joins sheet 91)
LAMAR COUNTY
T 17 S
T 16 S
½ Mile
Scale 1:15 840
0
3000 Feet

N

(Joins sheet 73)

(Joins sheet 82)

(Joins sheet 84)

(Joins sheet 92)

Pilgrim Rest Church

Sawaqua Creek

34 35 36 3 2 1

0 ½ Mile Scale 1:15 840 0 3000 Feet

N

(Joins sheet 74)

R 12 W

(Joins sheet 83)

T 16 S | T 17 S

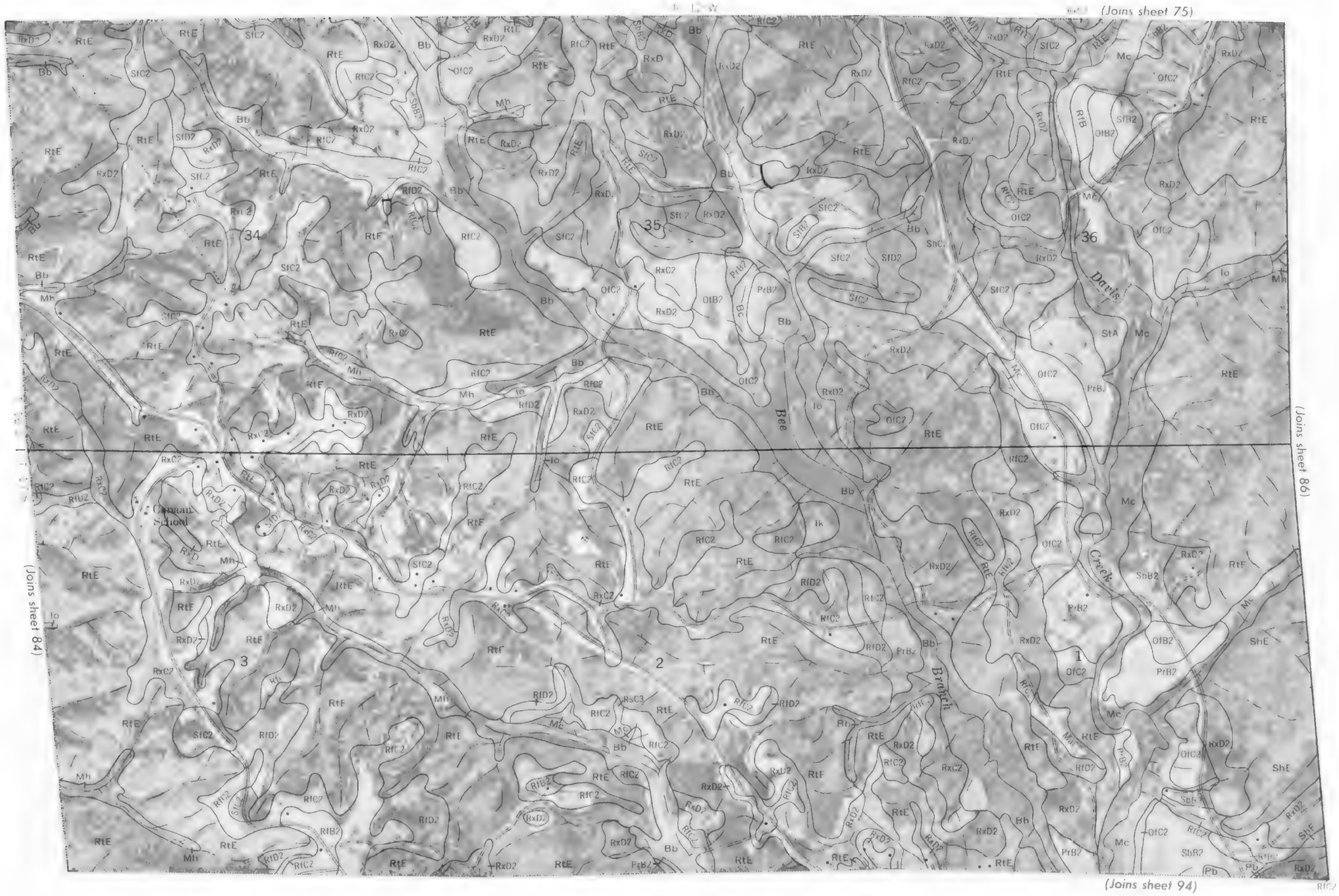
(Joins sheet 85)

(Joins sheet 93)

SIPSEY RIVER

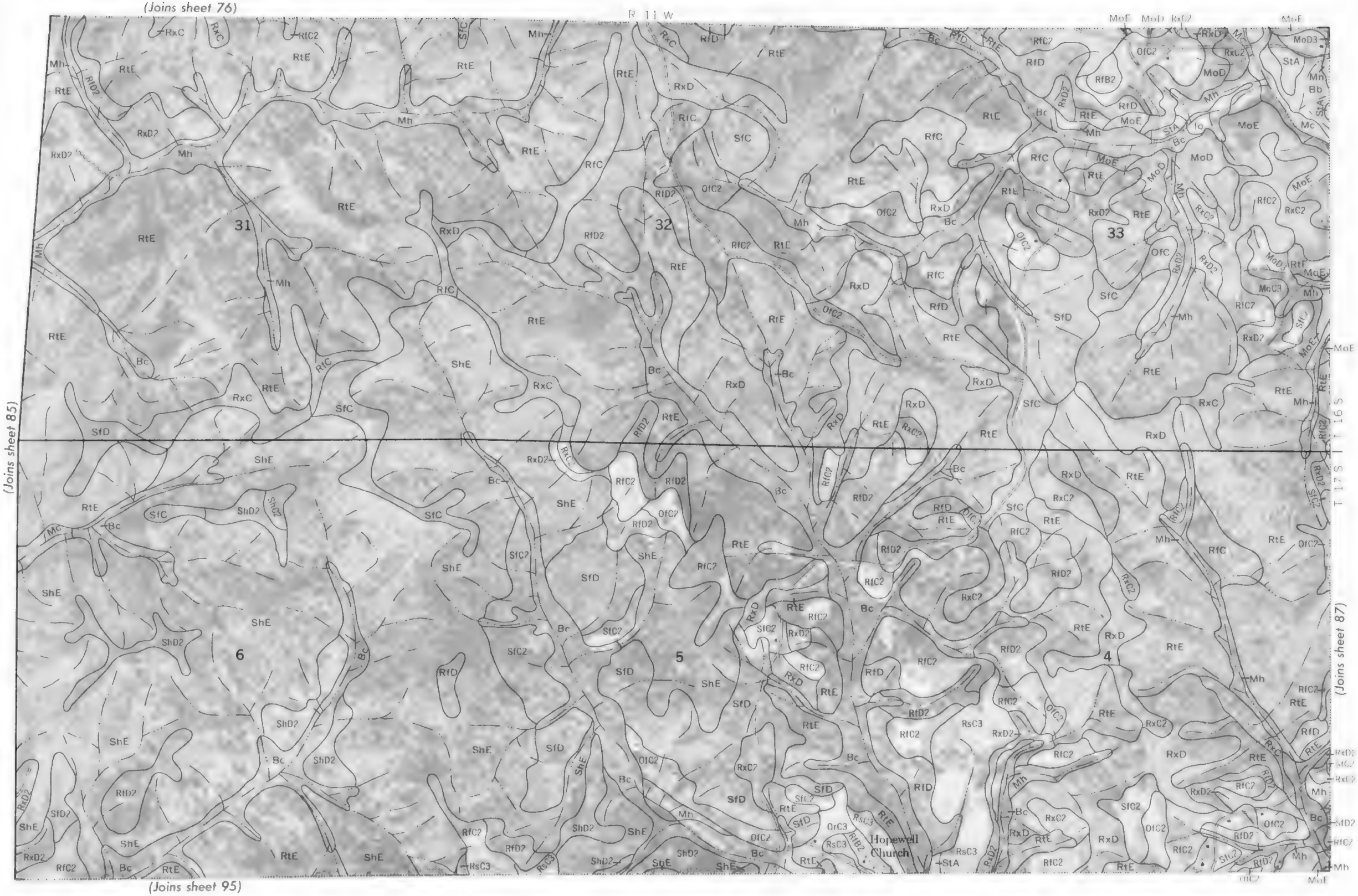
Savage Creek

0 ½ Mile Scale 1:15 840 0 3000 Feet

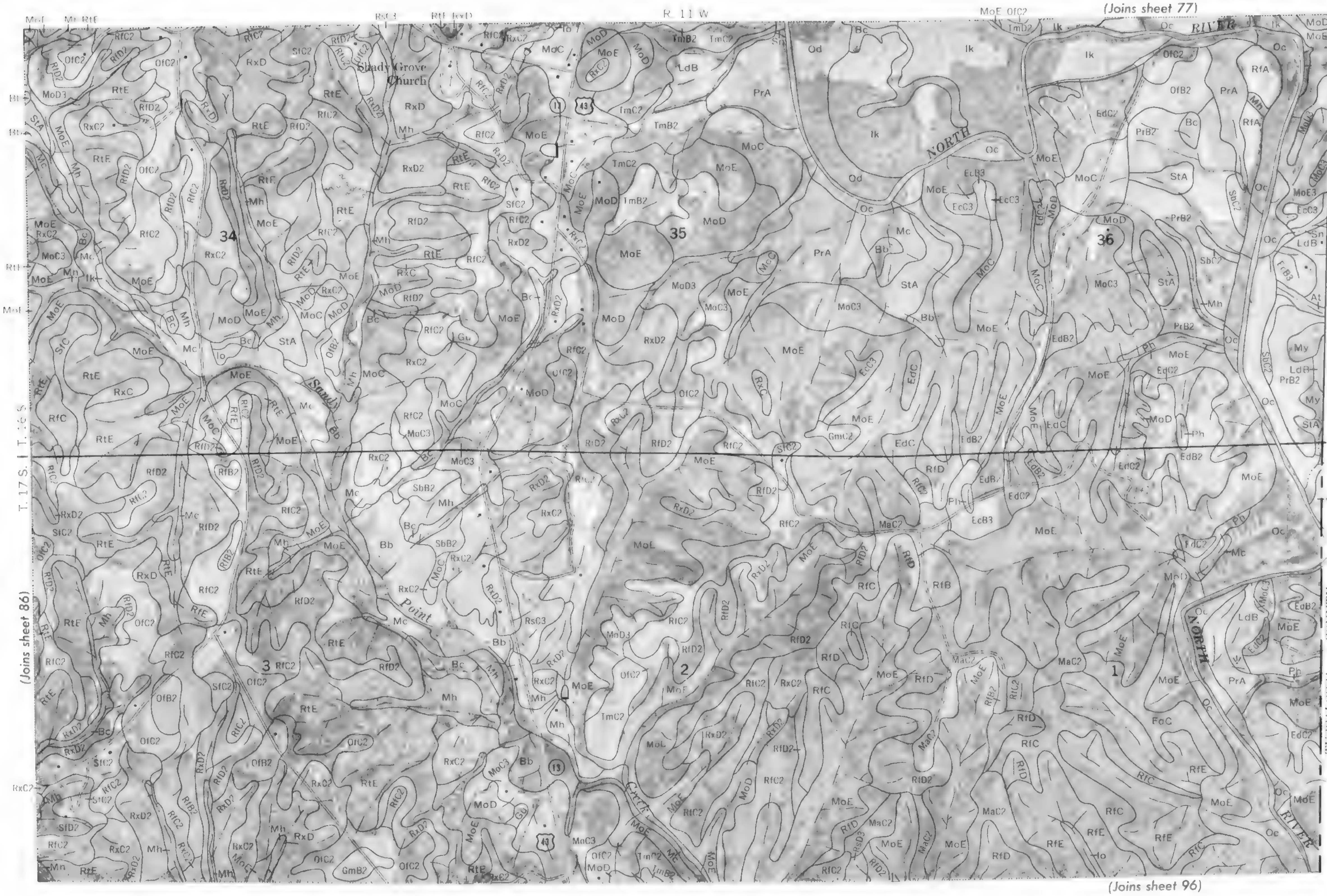

N
(Joins sheet 75)
(Joins sheet 86)
(Joins sheet 84)
(Joins sheet 94)
34
35
36
3
2
1
Bee
Branch
Creek
Davis
Cannan
Chapel
RtE
RtF
RxD2
RxC2
RfC2
RfD2
RfB2
SfC2
SfD2
SfB2
ShC2
ShB2
OfC2
OfB2
Bb
Mh
Mc
Io
StA
PrB2
RsC3
½ Mile
Scale 1:15 840
0
3000 Feet

86

N



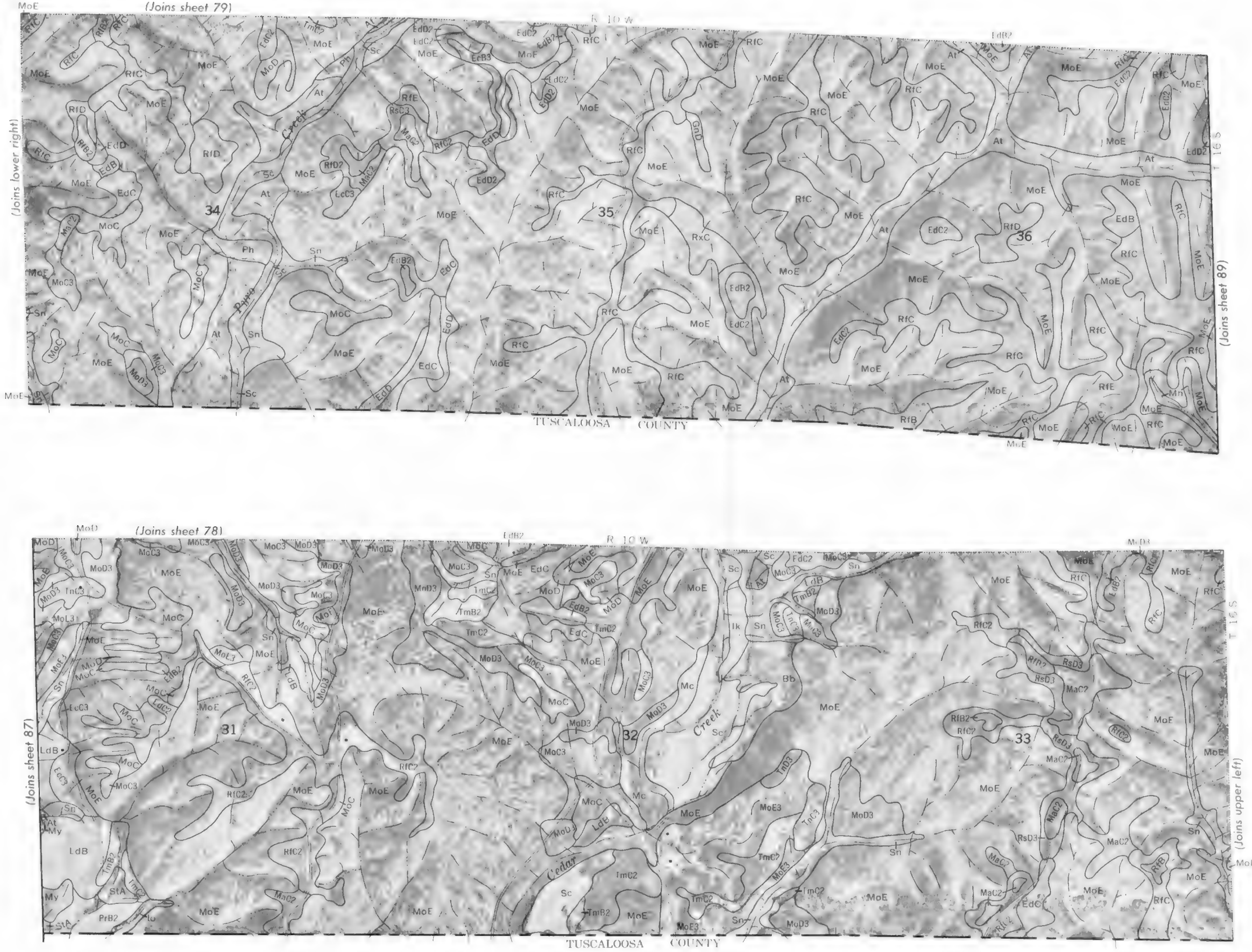
0 ½ Mile Scale 1:15 840 0 3000 Feet



This map is one of a set compiled in 1964 [illegible] the Alabama Department of Agriculture and Industries, and the Alabama Agricultural Experiment Station

Range, township, and section corners shown on this map are indefinite.

0 — ½ Mile — Scale 1:15 840 — 0 — 3000 Feet


N
(Joins sheet 79)
(Joins lower right)
R 10 W
T 16 S
(Joins sheet 89)
34
35
36
TUSCALOOSA COUNTY
(Joins sheet 78)
(Joins sheet 87)
31
32
33
Creek
Cedar
(Joins upper left)
0 ½ Mile
Scale 1:15 840
0 3000 Feet

N

0 ½ Mile Scale 1:15 840 0 3000 Feet

FAYETTE COUNTY, ALABAMA — SHEET NUMBER 9

0 ½ Mile Scale 1:15 840 0 3000 Feet

½ Mile Scale 1 15 840 3000 Feet

92

N

(Joins sheet 83)

R 13 W

T 17 S.

(Joins sheet 91)

(Joins sheet 93)

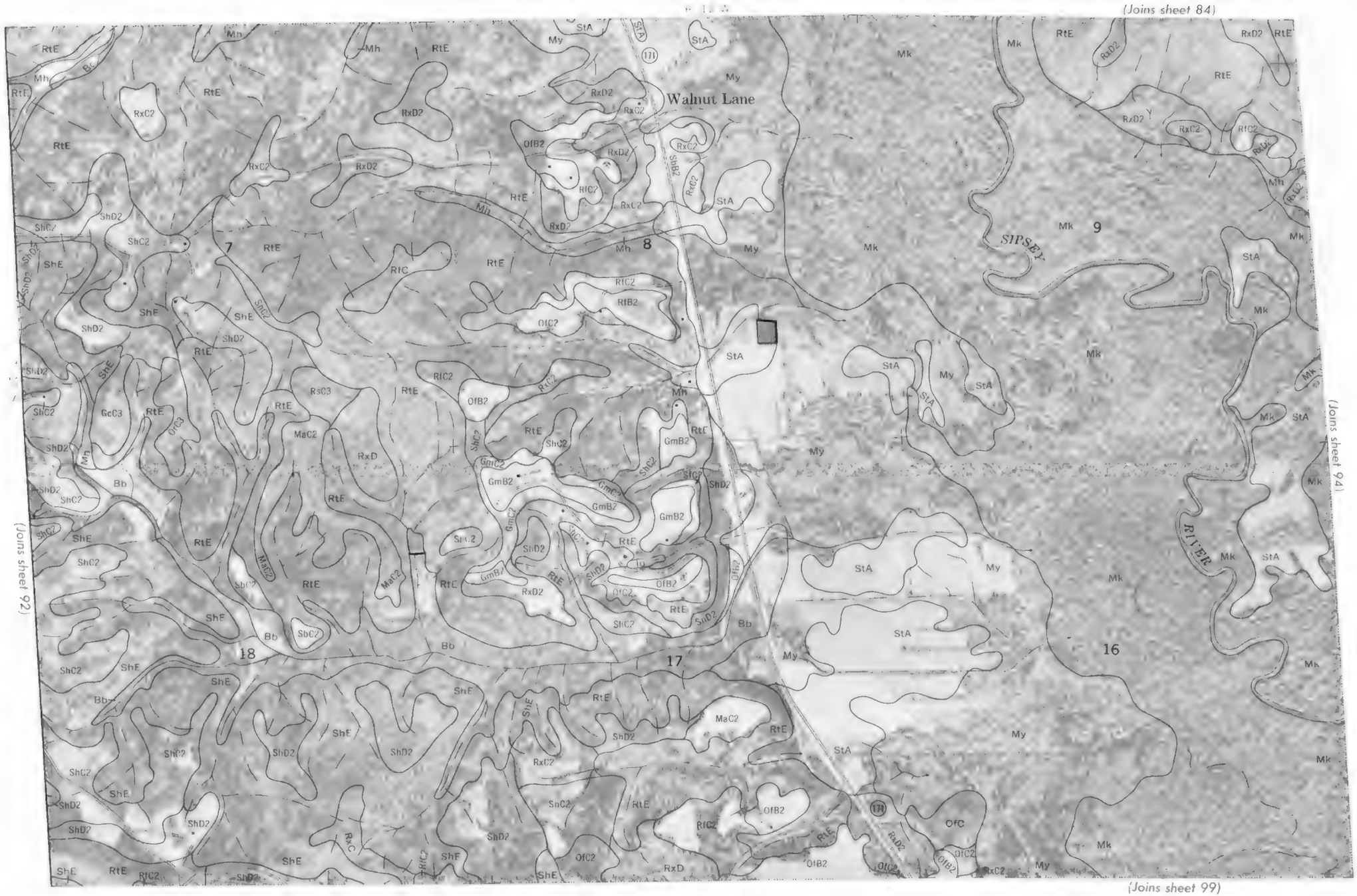
(Joins sheet 98)

10 11 12 13 14 15

RtE RfC RfC2 RfD2 RfB2 RxC RxD RxD2 RsD3 ShE ShD2 ShC2 SfC2 SfD2 SfD Bb Bc Mh Sa StA GnD Gu

159 158

0 ½ Mile Scale 1:15 840 0 3000 Feet



0 ½ Mile Scale 1:15 840 0 3000 Feet

94

N

R. 12 W.

(Joins sheet 85)

(Joins sheet 93)

(Joins sheet 95)

(Joins sheet 100)

T. 17 S.

10 11 12 13 14 15

Canaan Church

Creek

Davis

SIPSEY RIVER

0 ½ Mile Scale 1:15 840 0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet

N

0 ½ Mile Scale 1:15 840 0 4000 Feet

(98)

N

0 ½ Mile Scale 1:15 840 0 3000 Feet

FAYETTE COUNTY, ALABAMA — SHEET NUMBER 99

99

N

R. 12 W.

(Joins sheet 93)

T. 17 S.

(Joins sheet 98)

(Joins sheet 100)

(Joins sheet 104)

Newtonville

Newtonville School

Bear Creek

19 20 21 30 29 28

0 ½ Mile

Scale 1:15 840

0 3000 Feet

This map is one of a set compiled in 1964 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Alabama Department of Agriculture and Industries, and the Alabama Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FAYETTE COUNTY, ALABAMA

ALABAMA DEPARTMENT OF AGRICULTURE AND INDUSTRIES
ALABAMA AGRICULTURAL EXPERIMENT STATION

SOIL LEGEND

The first capital letter is the initial one of the soil name. The second capital letter shows the slope. Most symbols without a slope letter are for nearly level soils, but some are for soils or land types that have a considerable range in slope. A final number, 2 or 3, in the symbol, shows that the soil is eroded or severely eroded.

SYMBOL	NAME
At	Atkins soils, local alluvium
Bb	Bibb soils
Bc	Bibb soils, local alluvium
EcB3	Enders clay loam, 2 to 6 percent slopes, severely eroded
EcC3	Enders clay loam, 6 to 10 percent slopes, severely eroded
EcD3	Enders clay loam, 10 to 15 percent slopes, severely eroded
EdB	Enders loam, 2 to 6 percent slopes
EdB2	Enders loam, 2 to 6 percent slopes, eroded
EdC	Enders loam, 6 to 10 percent slopes
EdC2	Enders loam, 6 to 10 percent slopes, eroded
EdD	Enders loam, 10 to 15 percent slopes
EdD2	Enders loam, 10 to 15 percent slopes, eroded
Ga	Gravel pit
GcC3	Greenville clay loam, 2 to 10 percent slopes, severely eroded
GmA	Greenville loam, 0 to 2 percent slopes
GmB2	Greenville loam, 2 to 6 percent slopes, eroded
GmC2	Greenville loam, 6 to 10 percent slopes, eroded
GnD	Guin gravelly sandy loam, 6 to 15 percent slopes
Gu	Gullied land
HaB2	Hanceville loam, 2 to 6 percent slopes, eroded
Ik	Iuka silt loam
Io	Iuka-Ochlockonee complex, local alluvium
LdB	Leadvale loam, 2 to 6 percent slopes
MaC2	Magnolia fine sandy loam, 2 to 10 percent slopes, eroded
Mc	Mantachie fine sandy loam
Mh	Mantachie soils, local alluvium
Mk	Mantachie, Leaf, and Iuka soils
Mm	Mashulaville loam
MoC	Montevallo shaly silt loam, 6 to 10 percent slopes
MoC3	Montevallo shaly silt loam, 6 to 10 percent slopes, severely eroded
MoD	Montevallo shaly silt loam, 10 to 15 percent slopes
MoD3	Montevallo shaly silt loam, 10 to 15 percent slopes, severely eroded
MoE	Montevallo shaly silt loam, 15 to 50 percent slopes
MoE3	Montevallo shaly silt loam, 15 to 50 percent slopes, severely eroded
My	Myatt silt loam
Oc	Ochlockonee loam
Od	Ochlockonee sandy loam
OfB2	Ora fine sandy loam, 2 to 6 percent slopes, eroded
OfC	Ora fine sandy loam, 6 to 10 percent slopes
OfC2	Ora fine sandy loam, 6 to 10 percent slopes, eroded
OfD2	Ora fine sandy loam, 10 to 15 percent slopes, eroded
OrC3	Ora sandy clay loam, 6 to 10 percent slopes, severely eroded
Pb	Pheba loam
Ph	Philo soils, local alluvium
PrA	Prentiss fine sandy loam, 0 to 2 percent slopes
PrB2	Prentiss fine sandy loam, 2 to 6 percent slopes, eroded
Rd	Rock land
RfA	Ruston fine sandy loam, 0 to 2 percent slopes
RfB	Ruston fine sandy loam, 2 to 6 percent slopes
RfB2	Ruston fine sandy loam, 2 to 6 percent slopes, eroded
RfC	Ruston fine sandy loam, 6 to 10 percent slopes
RfC2	Ruston fine sandy loam, 6 to 10 percent slopes, eroded
RfD	Ruston fine sandy loam, 10 to 15 percent slopes
RfD2	Ruston fine sandy loam, 10 to 15 percent slopes, eroded
RfE	Ruston fine sandy loam, 15 to 25 percent slopes
RsC3	Ruston sandy clay loam, 6 to 10 percent slopes, severely eroded
RsD3	Ruston sandy clay loam, 10 to 15 percent slopes, severely eroded
RtE	Ruston-Cuthbert association, 15 to 50 percent slopes
RxC	Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes
RxC2	Ruston-Cuthbert-Shubuta complex, 6 to 10 percent slopes, eroded
RxD	Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes
RxD2	Ruston-Cuthbert-Shubuta complex, 10 to 15 percent slopes, eroded
Sa	Sandy alluvial land
SbA	Savannah loam, 0 to 2 percent slopes
SbB	Savannah loam, 2 to 6 percent slopes
SbB2	Savannah loam, 2 to 6 percent slopes, eroded
SbC2	Savannah loam, 6 to 10 percent slopes, eroded
Sc	Sequatchie loam
SfB2	Shubuta fine sandy loam, 2 to 6 percent slopes, eroded
SfC	Shubuta fine sandy loam, 6 to 10 percent slopes
SfC2	Shubuta fine sandy loam, 6 to 10 percent slopes, eroded
SfD	Shubuta fine sandy loam, 10 to 15 percent slopes
SfD2	Shubuta fine sandy loam, 10 to 15 percent slopes, eroded
ShC2	Shubuta-Boswell complex, 6 to 10 percent slopes, eroded
ShD2	Shubuta-Boswell complex, 10 to 15 percent slopes, eroded
ShE	Shubuta-Boswell complex, 15 to 50 percent slopes
Sn	Stendal soils, local alluvium
StA	Stough loam, 0 to 2 percent slopes
Tc	Terrace escarpments
TmB2	Townley loam, 2 to 6 percent slopes, eroded
TmC	Townley loam, 6 to 10 percent slopes
TmC2	Townley loam, 6 to 10 percent slopes, eroded
TmD2	Townley loam, 10 to 15 percent slopes, eroded
TnB3	Townley silty clay loam, 2 to 6 percent slopes, severely eroded
TnC3	Townley silty clay loam, 6 to 10 percent slopes, severely eroded
TnD3	Townley silty clay loam, 10 to 15 percent slopes, severely eroded
Ty	Tyler loam

CONVENTIONAL SIGNS

WORKS AND STRUCTURES

Highways and roads
- Dual
- Good motor
- Poor motor
- Trail

Highway markers
- National Interstate
- U. S.
- State

Railroads
- Single track
- Multiple track
- Abandoned

Bridges and crossings
- Road
- Trail, foot
- Railroad
- Ferries
- Ford
- Grade
- R. R. over
- R. R. under
- Tunnel

Buildings
- School
- Church
- Station

Mines and Quarries

Mine dump

Pits, gravel or other

Power lines

Pipe lines

Cemeteries

Dams

Levees

Tanks

Oil wells

BOUNDARIES

- National or state
- County
- Township, U. S.
- Section line, corner
- Reservation
- Land grant

DRAINAGE

Streams
- Perennial
- Intermittent, unclass.

Canals and ditches (CANAL / DITCH)

Lakes and ponds
- Perennial
- Intermittent

Wells (flowing)

Springs

Marsh

Wet spot

Alluvial fan

RELIEF

Escarpments
- Bedrock
- Other

Prominent peaks

Depressions

	Large	Small
Crossable with tillage implements		
Not crossable with tillage implements		
Contains water most of the time		

SOIL SURVEY DATA

- Soil boundary and symbol (Dx)
- Gravel
- Stones
- Rock outcrops
- Chert fragments
- Clay spot
- Sand spot
- Gumbo or scabby spot
- Made land
- Severely eroded spot
- Blowout, wind erosion
- Gullies

Soil map constructed 1964 by Cartographic Division, Soil Conservation Service, USDA, from 1956 aerial photographs. Controlled mosaic based on Alabama plane coordinate system, west zone, transverse Mercator projection. 1927 North American datum.